EXPLORING THE PHENOMENOLOGY OF VOICES:

A COGNITIVE APPROACH

By

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Summary

'Voices' or auditory hallucinations are a common phenomenon in clinical settings. In recent years, primarily in the United Kingdom, cognitive behavioural researchers have begun to turn their attention to the psychoses in general and voices and delusions in particular. Researchers have sought to develop theoretical models of voices to inform understanding and clinical intervention. Chadwick and Birchwood's (1994) model, particularly, emphasises the role of delusional beliefs about voices. The present volume explores the role that beliefs about voices may have in understanding people's reactions to voices and in alleviating the difficulties often associated with this experience.

An initial review of the literature focussed on the current evidence for a role of delusional beliefs about voices in mediating the emotional and behavioural response to voices. Evidence, from theoretical and outcome studies, was considered in assessing the validity of a cognitive model and areas for future research identified.

A particular form of behavioural response to voices i.e. 'safety behaviours' was then investigated. Types of safety behaviours used by voice hearers were compared to those reported in persecutory delusions by an inter-rater reliability study of the Safety Behaviour Questionnaire (Freeman, Garety and Kuipers, 2001). These categories were applicable to voice hearers.

The role of safety behaviours in maintaining delusional beliefs about voices, threat appraisal and distress was examined. Voice hearers with schizophrenia were compared on structured interview and questionnaire measures. Safety behaviours were implicated in the maintenance of delusional beliefs and distress. Clinical implications and areas for future research were discussed.

Finally, ethical, methodological and clinical issues were considered along with personal reflections on the research process in the reflective research review.

Declaration

This thesis was carried out under the supervision of Dr. Jeremy Tudway, Clinical Psychologist, Professor Max Birchwood, Clinical Psychologist and Dr. Alan Meaden, Clinical Psychologist. Authorship of the papers will be shared with the above. In addition, authorship for Empirical paper 1 will also be shared with Dr Catherine Amphlett, for her work on the reliability study. This thesis has not been submitted for a degree to any other university.

The initial idea for the study evolved through discussions between Professor Birchwood and myself, with the study design and analysis carried out as a collaborative effort between Dr. Tudway, Professor Birchwood and myself. I carried out all of the interviews and apart from these collaborations the thesis is my own work.

Ethical Approval was obtained from the Muti-Region Ethical Committee (MREC) for Scotland (See Appendix A).

The thesis chapters have been written for submission to the following journals (see Appendix F for instructions to authors):

Chapter 1: Beliefs About Voices: Evidence for a Cognitive Behavioural Model. *Clinical Psychology Review.*

Chapter 2: Categories of Safety Behaviour Use in Voice Hearers: An inter-rater reliability study of the Safety Behaviour Questionnaire. *British Journal of Clinical Psychology.*

Chapter 3: The Omnipotence of Voices: Sources of Threat, Safety Behaviours and the Maintenance of Delusional Distress. *Psychological Medicine.*

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Chapter I: Literature Review

Beliefs About Voices:

Evidence for a Cognitive Behavioural Model

Chapter word count 7982 (excluding tables and references)

Abstract

In this paper, we examine the evidence for a cognitive behavioural model of auditory verbal hallucinations. The role of delusional beliefs about voices, in mediating between voice occurrence and the emotional and behavioural consequences of voice hearing, is reviewed. Evidence is considered from relevant theoretical and outcome studies. Whilst theoretical studies offer promising preliminary support for a role of beliefs about voices in generating negative affect, the association to behavioural consequences is currently under-researched. Furthermore many studies fail to control for voice or symptom characteristics. It is argued that cognitive behavioural intervention studies often do not adequately reflect theoretical findings. Broad intervention targets and strategies and global outcome measures prevent clear conclusions about mechanisms of change in cognitive therapy and consequently can offer little support at present for a cognitive model. Methodological issues are discussed and implications for future research are considered.

Beliefs about voices: evidence for a cognitive behavioural model

Introduction

The experience of hearing voices has been reported for over 2000 years. Indeed, historical figures such as Pythagoras, Galileo and Socrates were reported to hear them and be guided by them (Leudar & Thomas, 2000). In the present era, however, 'Voices' or auditory hallucinations are typically associated with "mental illness", and are found to occur at a high rate in psychotic disorders such as schizophrenia. The International Pilot Study of Schizophrenia (Wing, Cooper, & Sartorius, 1974), for example, reported a rate of 74% in people with schizophrenia and Slade and Bentall (1988) found a prevalence of 60.2 % across sixteen reports. 'Voices' are therefore a common clinical phenomenon in psychiatric settings. They are also associated with significant emotional and behavioural consequences to the self and others (e.g. Beck-Sander, Birchwood & Chadwick, 1997; Birchwood and Chadwick, 1997).

The last twenty years has seen somewhat of a revolution in the psychological understanding and treatment of voices. Some authors have focussed on *causal*, neuro-cognitive theories, which have their evidence base in experimental and functional imaging studies (e.g. Gallagher, Dinan and Baker, 1994; Shergill, Cameron & Brammer, 2001). Such studies suggest that voices are similar to auditory verbal imagery or "inner speech" which is misattributed as originating from an external source (Frith 1992; Slade and Bentall, 1988). The present review does not examine the evidence for such theories (see Beck and Rector (2003) for a recent review).

There has also been a proliferation of work applying cognitive behavioural therapy (CBT) principles, to a theoretical understanding of voices and delusions and their treatment (e.g. Chadwick, Birchwood and Trower 1996; Garety, Kuipers, Fowler, Chamberlain & Dunn, 2001; Morrison, 1998). Common to the cognitive behavioural approaches to clinical problems (e.g. Beck 1979; Ellis 1962) is the notion that beliefs or thoughts are crucial elements in determining both affective and behavioural responses to events. The work of authors such as Chadwick et al (1996) and Morrison (1998) similarly assigns a primary role to beliefs about voices in the maintenance of distress.

Aims

The present review specifically examines the empirical evidence for the role of beliefs about voices in maintaining the emotional and behavioural consequences of voice hearing, sometimes referred to as the cognitive model. The role of beliefs is reviewed using two sources of evidence. First, empirical studies examining the role of beliefs, as opposed to voice characteristics (e.g. voice content, loudness) in predicting emotional and behavioural consequences are reviewed. Secondly, evidence from CBT treatment studies is examined with respect to the support it offers for a cognitive behavioural model of voices.

Method

The literature reviewed in this paper was identified by automated search using PSYCHINFO and Medline. The following terms were entered: "*voices*", "*cognitive-behavioural*", "*auditory hallucinations*", "*psychosis*", "*schizophrenia*", "*cognitive-behaviour*" and "*delusion*". Search results were screened and items relevant to the

current review were selected. Advice on relevant articles was also sought from colleagues working within psychosis research.

Cognitive versus Psychiatric models of auditory hallucinations

The psychiatric model of auditory hallucinations is essentially an AC model, whereby an activating event (A) such as disease (e.g. schizophrenia) directly causes symptoms/ consequences (C) (e.g. voices, depression). Treatment therefore focuses on underlying biology and medication. At another level the psychiatric AC model views voices as symptoms (A) that cause distress (C), and treatment aims to alleviate distress by eradication of the voices themselves (Trower, 2003). In both cases voices are viewed as pathological phenomena, the subjective meaning of which is irrelevant.

Chadwick and Birchwood (1994) have proposed an alternative conceptualisation of voices. They suggest that the voice itself can be viewed as an antecedent or activating event (A), about which the person develops delusional beliefs (B's). This is in agreement with Maher (1974), who conceptualises delusional beliefs as attempts to make sense of anomalous experiences. It is also aligned with the observation that voice hearers, initially startled and confused by the voices, come to establish a consistent pattern of understanding and coping with the experience (Romme and Escher, 1989). Chadwick and Birchwood's (1994) model posits that people's beliefs (B) about voices (A), are central in determining their emotional and behavioural reaction to them. It is therefore an ABC model (Trower, 2003).

Fundamental principles of a cognitive model

Chadwick and Birchwood's (1994) model draws heavily from cognitive models of neurosis (e.g. Beck's Cognitive Therapy (Beck, 1979) and Ellis' (1962) Rational Emotive Behavioural Therapy), which assert that it is the subjective beliefs (B) *about* events that determine the way we feel and act (emotional and behavioural C's). A number of fundamental principles of these approaches can be identified (Chadwick, Birchwood, and Trower, 1996).

1. All clinical problems are viewed as being 'C's (i.e. problematic feelings or behaviours) rather than being located at A (events or circumstances).
2 (i) C's are caused by B's (beliefs), rather than A's (events)

   (ii) B's and C's should show some logical connection (e.g. a belief that people don't like you makes you feel sad, not happy). Such beliefs or B's are seen as being rooted in early experiences.
3. Finally, it is proposed that challenging beliefs (B's) should lead to changes in C's.

The present review utilises these principles to examine the importance of beliefs about voices i.e. the validity of a cognitive model. Firstly, are voices (A's in Chadwick et al's (1994) model) associated with problematic consequences? Secondly, are emotional and behavioural consequences (C's) a result of voice occurrence or voice qualities (i.e. A's), or are they a result of beliefs (B)? Thirdly, does the current evidence from outcome studies support the idea that challenging

beliefs (B's) about voices leads to improvements in C's (i.e. affect or behaviour) without necessarily changing 'A's?

Principle 1: Are voices associated with problematic C's?

Current evidence suggests that hearing voices is indeed often linked to emotional distress. Birchwood and Chadwick (1997) found that 53% of their sample of voice hearers were depressed (24% severely so) and over 80% found their voices 'very distressing' on a measure of voice-related distress (Hustig and Hafner, 1990). Van der Gaag, Hageman and Birchwood, (2003) broadly replicated these findings. Similarly, Chadwick, Lees and Birchwood (2000) found that of 67 % and 48% of voice hearers, fell into the moderate to severe range for anxiety and depression respectively on the Hospital Anxiety and Depression Scale (Zigmund and Snaith, 1983).

Whilst less evidence exists for behavioural C's, it appears that many voice hearers feel compelled to comply with voice commands or appease persecutory voices at cost to themselves and against their own wishes (Beck-Sander et al, 1997; Byrne, Trower, Birchwood, Meaden & Nelson, 2003). Command hallucinations, for example, occur at a high rate (median 53%) in psychiatric patients with voices and compliance with commands to harm the self or others is common, occurring at a median prevalence of 31% (Shawyer, Mackinnon, Farhall, Trauer & Copolov, 2003). Furthermore, Wessley et al (1993) found that acting on delusional, paranoid, beliefs, which Birchwood and Chadwick (1997) view as applying to voices, was common. Junginger (1996) also notes that violence in the context of psychosis often follows

logically from people's psychotic experiences (e.g. voices) and beliefs. Current evidence, therefore suggests that voices are commonly associated with both distress and problematic behaviours.

Principle 2: Do beliefs about voices (B's) predict emotional and behavioural C's?

I. Are C's caused by A's?

Do emotional and behavioural consequences arise from simply hearing voices? Evidence suggests that such an AC model cannot adequately account for the emotional distress associated with voices. Firstly, voices occur in the normal population and are not always associated with psychiatric care or emotional distress; distress appears to be mediated by psychological processes such as appraisal and coping style. Secondly delusional beliefs about voices being interpersonal phenomena are common, suggesting that people construe and respond to their voices in an active fashion.

Voices occur in the normal population with a lifetime prevalence of 1.2-25 % and in many cases are benign or non-distressing (Johns, Nazroo, Bebbington & Kuipers, 2002; Slade and Bentall 1988; Tien 1991; Van Os, Hanssen, Bijl & Ravelli, 2000). Studies have reported hallucinatory experiences in non-psychiatric populations e.g. college students (Posey and Losch, 1983; Young, Bentall, Slade and Dewey, 1987), female survivors of incest (Ensink, 1992) and the bereaved (Rees, 1971). In a Dutch sample of voice hearers (Romme, Honig, Noorthoorn, & Escher, 1992), many were

neither under psychiatric care nor disturbed by their voices; of those who did find their voices disturbing the level of disturbance appeared to be mediated by beliefs about the voice being stronger than the self and by differences in coping strategies. However, those who found the voices more distressing and stronger also experienced more negative and imperative voices suggesting voice characteristics are also important. Similarly, other studies have found that voices are often more negative or derogatory in patient groups (Honig et al 1998; Leudar, Thomas, McNally & Glinski, 1997), whilst Pennings and Romme (1996) (Cited in Leudar and Thomas 2000) found no differences in the characteristics of voices in people with and without a psychiatric diagnosis. It appears that whilst voice characteristics (A's) are important so may be psychological mediators (B's).

In support of this view, comparisons of voice hearers and tinnitus sufferers reveal that both groups both groups display anger, irritation and irritability and are distressed by the lack of control over the experience. Other emotional reactions however are specific to voice hearers such as feeling frightened (stemming from voices sounding real and having negative content) and are linked to beliefs about the voice e.g. intent to harm (Johns, Hemsley and Kuipers, 2002). Hence some, but not all emotional consequences (C) may be mediated by beliefs about voices. A role for beliefs is further supported by the observation that many voice hearers report integrated and personally coherent relationships with their voices that can be understood in the context of normal relationship (Benjamin, 1989). Nayani and David (1996) for example, found that sixty percent of voice hearers held beliefs about their voices being "delusional" entities (e.g. God or the Devil) or "real" voices

(e.g. relatives). They also noted that perceived control, coping, insight and reduced distress appear to be associated, suggesting a role for beliefs.

These survey-based studies suggest that voices occur in the normal population and are not necessarily associated with distress: factors such as perceived control, delusional beliefs about voices and coping style may be important psychological mediators. Voice content also appears to be important, however, as do other voice characteristics (e.g. frequency). The relative contribution of these factors is an important question in assessing the validity of a cognitive model.

II. Are emotional C's associated with beliefs (B's)?

It appears that it is not the experience of hearing voices per se which is important in determining distress. However, characteristics of the voices (A's: e.g. negativity, loudness, frequency of occurrence) may well be important. For example, louder voices might be more distressing and therefore more likely to be perceived as malevolent. Hence the relative importance of delusional beliefs about voices needs to be assessed in light of these factors. Two key questions are pertinent:

a) Are beliefs about voices derived purely from the content of the voice (what the voice says) or other voice characteristics (e.g. loudness or frequency)? (i.e. *do A's cause B's?)*

b) Are beliefs about voices linked to affective and behavioural consequences when other factors such as general symptomatology and voice characteristics (A's) are accounted for? (i.e. *do B's cause C's*?)

a) Voice characteristics and beliefs about voices

Despite her suggestion that the meaning of voices arises directly from content, Benjamin (1989) cites a contrary example: a voice stating, "you should", which was taken as a command to commit suicide, and yet was perceived to be well intentioned. This example suggests that voice interpretation can be quite discrepant from voice content. If true, this would suggest that B's are not fully explained by A's and hence offer support for a cognitive model. A number of authors have addressed this very question.

Chadwick and Birchwood (1994) found that voice hearers' typical beliefs about voices included the perceived 'identity' of the voice, 'meaning', 'power' and 'beliefs about compliance'. A belief in the "power" of voices was reported by all participants, and followed from: content (e.g. knowing facts and personal information about the person i.e. "omniscience"); events attributed to the voice; concurrent symptoms (e.g. visual hallucinations); feelings of being controlled, and being unable to control the voices. Voice meaning (intent) was conceptualised as 'malevolent' (persecutory or punishing) or 'benevolent' (protective, maintaining well-being, giving advice). Frequently, voice content (e.g. evil commands or protective comments) was linked directly to beliefs about malevolence or benevolence. Consistent with a cognitive model, however, voice content did not always predict voice beliefs: in 31% of cases voice content was at odds with beliefs (e.g. one subject was told to kill her family and herself but this was construed as benevolent). Furthermore, the type of belief (malevolent vs. benevolent) predicted the type of affect experienced (negative vs. positive respectively), irrespective of voice content. Hence there was a logical relationship between belief and affect as

predicted by a cognitive model. The results of this study are promising but the authors did not report reliability for their interview schedule - it was essentially a qualitative, clinical study.

Birchwood and Chadwick's (1997) study does suggest that beliefs about voices are not secondary to physical characteristics. They found that ratings of power appeared to be orthogonal to meaning with all groups rating their voices as powerful. No significant differences were found between groups (malevolence vs. benevolence vs. benign and high vs. low power) in frequency, clarity or loudness of the voices or voice form (commands/advice/comments vs. insults and threats vs. commentary). Voice beliefs (Identity, meaning and compliance) followed directly from voice content in only a minority of cases as assessed by blind-raters; often an inference was required or there was no direct connection. Overall, these results suggest that beliefs about voices appear to be relatively independent of voice form, content or frequency supporting an independent role for beliefs.

Close and Garety (1998), using a similar methodology to Chadwick and Birchwood (1994), reported high interview reliability, but found no support for a distinction between beliefs and voice content: voice content appeared directly linked to the meaning of the voice in all cases. Overall, they found a predominantly negative affective response to voices, irrespective of malevolence and benevolence beliefs, though only one person in their study reported a benevolent voice alone. Neither study accounted for voices characteristics so their influence, e.g. louder voices being more distressing and therefore construed as malevolent, could not be ruled out

Van der Gaag et al (2003) similarly found that voice beliefs were discrepant from voice content only in 2 out of 43 cases, where a predominant valence of voice content (positive or negative) could be identified. However, in neutral content voices there was a distribution of malevolence and benevolence beliefs. They suggest that positive or negative voice content predisposes towards particular interpretations. However, they found that voice beliefs, not content, were predictive of depression and anxiety. The findings of Beck-Sander et al (1997) offer further support for a role for beliefs about voice intent. They found that in people experiencing command hallucinations, malevolence beliefs were associated with a negative affective response to commands irrespective of command severity, whereas benevolence and benign beliefs elicited positive and neutral affective responses respectively. Resisting commands was met with a sense of being in control for malevolent voice hearers but not for the other groups.

These empirical studies building on Chadwick and Birchwood's (1994) proposed model, demonstrate that beliefs about voices are frequently related to voice content. In some cases, however, an inference is required or there is no relationship between content and belief. This suggests that beliefs about voices (B) are not solely determined by voice content (A). Furthermore, voice hearers who differ on voice belief ratings (e.g. high versus low power) do not differ in voice characteristics, suggesting that the latter cannot be considered primary (Birchwood and Chadwick, 1997). The *independent* role of beliefs would be further supported if beliefs about voices predicted emotional C's when voice form and content are accounted for.

b) Voice Beliefs And Emotional Consequences

A number of studies have attempted to examine the relationship between beliefs about voices and affect (voice related distress, depression, anxiety etc) i.e. whether 'B's and emotional C's are inter-related. These studies are considered in the following sections.

i) Cross-sectional Studies

Chadwick et al (2000) validated their "beliefs about voices questionnaire –revised" (BAVQ-R), with the Hospital Anxiety and Depression Scale (Zigmund and Snaith, 1983). The BAVQ-R broadens the single item construct of power to "omnipotence" a construct including items about: 'omniscience', being ruled by the voice, being made to do things against one's wishes or face harm to self, and the uncontrollability of the voice. They report that omnipotence and malevolence were related to anxiety, depression and "resistance" (which includes a negative affective response to voices). However, the relative contribution of omnipotence or malevolence to affect is confounded by an overlap between malevolence and omnipotence constructs, as omnipotence items are clearly linked to the malevolent expression of power. Furthermore, voice characteristics and overall psychopathology were not controlled for in this study.

Table 1: Voice Beliefs and Affect

Study	Design & Inclusion Criteria	N	Voice Belief Measures	Affect Measures	Control for voice characteristics	Control for overall symptoms	Other methodological considerations
Chadwick and Birchwood 1997	Cross-sectional Schizophrenia or Schizoaffective disorder (ICD-10 criteria) Voices at least 2 years	62	Cognitive Assessment Schedule BAVQ	Voice Distress (Topography scale) BDI	Yes Voice Topography Scale	Yes PAS	Single item measure of power Malevolents show higher overall psychopathology No reliability reported for CAS
Close and Garety 1998	Cross-sectional Diagnosis of schizophrenia from consultant (criteria unspecified)	30	CAS	BDI/ BAI Rosenberg Self Esteem Scale	No	No	Reports Reliability for CAS No formal analysis
Soppit et al 1997	Cross-sectional Diagnosis of Schizophrenia (SCAN)	21	CAS BAVQ	BDI Distress (topography scale)	Yes Voice topography	No	Small sample size
Chadwick et al 2000	Cross-sectional Schizophrenia or schizoaffective disorder (criteria unspecified) Voices for at least 2 years	71	BAVQ-R	HADS BAVQ-R	No	No	Multi-item measure of "omnipotence" but significant correlation with malevolence
Birchwood et al 2000	Cross-sectional Schizophrenia or schizoaffective disorder (ICD-10). Voices for at least 2 years	59	Voice/Social Power Differential Scales; BAVQ; Voice/Social Rank Scales	Distress (Voice Topography Scale) BDI	Yes Voice Topography Scale	No	Control for depression-power and rank not mood linked appraisals No control for medication.
Birchwood et al (in submission)	Cross-sectional Schizophrenia/schizophreniform or paranoid psychosis (ICD-10)	125	As Birchwood et al 2000	As Birchwood et al 2000	Yes: Voice Topography Scale	No	Path analysis used to clarify direction of variable interactions.
Gilbert et al 2001	Within and Between Subjects Voice hearers (schizophrenia) versus depressed (ICD-10)	66	Voice/ Power Scales Social comparison scale Entrapment Scale	BDI	No	No	No measure of behaviour or voice content No medication measure

Key: BAVQ (R) = Beliefs about voices questionnaire (Revised) CAS= Cognitive Assessment Voices Schedule; BDI= Beck Depression Inventory; BPRS= Brief Psychiatric Rating Scale; BAI = Beck Anxiety Inventory; HADS= Hospital Anxiety and Depression Scale; PAS= Psychiatric Assessment Scale; MCQ= Metacognitions Questionnaire; NART= National Adult Reading Test; YSR = Youth Self Report; CGAS= Children's Global Assessment Scale.

Table 1: Voice Beliefs and Affect (continued)

Study	Design & Inclusion Criteria	N	Voice Belief Measures	Affect Measures	Control for voice characteristics	Control for overall symptoms	Other methodological considerations
Lucas et al 2001	Longitudinal (1mth) (within subjects) Schizophrenia/ Schizoaffective(DSM-IV)	30	BAVQ	BDI	No	Yes BPRS	Medication Compliance rated by self and doctor Risk of Type I errors Small sample size
Escher et al 2002/2003	Longitudinal (3yrs) Children Hearing Voices (50% not under psychiatric care) (No diagnostic criteria)	80	Maastricht Voices Interview (adapted for children)	BPRS	Yes (Voice frequency) Maastricht Interview	Yes BPRS YSR/CGAS	No reliability for interview. Belief measures ill-defined High dropout
Van der Gaag 2003	Cross sectional Voices in last week. Schizophrenia (78%) /also affective and personality disorders (DSM-IV)	43	BAVQ Semi-structured interview (voice content) Insight Scale	BDI Spielberger Anxiety Scale (SSTAS)	No (Content Only)	No (Duration of illness and insight only)	Independent rating of voice content Only voices with clear affective valence to content analysed.
Baker and Morrison 1998	Pseudo- Experimental : Word generation task:Hallucinating versus non- hallucinating schizophrenics (DSM-IV) versus controls	45	Meta-cognitions questionnaire & subjective rating of generated words.	HADS but not reported	NO	Yes KGV	No control for voice characteristics or mood. IQ controlled (NART)
Morrison and Baker (2000)	Between subjects	45	As above + Distressing thoughts/Voices Questionnaire (DTQ/DVQ)	HADS	Yes – voice frequency only	Yes KGV	No reliability or validity reported for DVQ. Small sample size)
Lobban, Haddock, Kinderman and Wells (2002).	Between Subjects: Hallucinators versus non-hallucinators versus anxiety disorder versus non-patient control (DSM-IV schizophrenia)	32	MCQ – shortened and modified (MCQ –SAM)	STAI BDI	N/a	KGV SCID for non-schizophrenics	Small sample size Reliability reported for MCQ-SAM.

Key: BAVQ (R) = Beliefs about voices questionnaire (Revised) CAS= Cognitive Assessment Voices Schedule; BDI= Beck Depression Inventory; BPRS= Brief Psychiatric Rating Scale; BAI = Beck Anxiety Inventory; HADS= Hospital Anxiety and Depression Scale; PAS= Psychiatric Assessment Scale; MCQ= Metacognitions Questionnaire; NART= National Adult Reading Test; YSR = Youth Self Report; CGAS= Children's Global Assessment Scale.

Soppit and Birchwood (1997) attempted to examine the relative contributions of voice beliefs, degree of negative voice content and voice characteristics in predicting depression. Malevolence was associated with both distress and depression; depression was also associated with voice intrusiveness, loudness, and positive symptoms. In addition, negative content, as rated by blind raters was higher in the depressed group suggesting a direct role for voice content. The small sample size and inter-relationships between variables make it difficult to draw conclusions about the relative importance of beliefs in predicting depression.

In contrast, Birchwood and Chadwick (1997) provide strong support for an influence of voice beliefs on emotional consequences. They report that positive symptoms and power and malevolence beliefs, but not voice characteristics, were significant predictors of depression. Furthermore, voice-related distress was associated with malevolence beliefs but not voice characteristics. The authors also controlled for overall symptomatology, finding that this was not related to power beliefs but that malevolence was associated with higher overall psychopathology. Notably the study found no difference in distress between the high and low power groups. One possible interpretation of this is that the expression of power, and hence the relationship to distress, is different in malevolent and benevolent voices and is cancelled out when the two are combined. This study provides evidence for the independent role of power beliefs in predicting depression. The relationship of power to distress and malevolence to distress and depression is less clear, particularly as malevolence was associated with higher overall symptomatology.

Van der Gaag et al (2003) provide further support for a cognitive model, finding that malevolence and power were associated with depression and anxiety and benevolence was negatively associated with these variables. Voice content did not predict the degree of emotional distress even though it often related to beliefs about voice meaning. Conversely, Close and Garety (1998) found little effect of beliefs: they found a predominance of negative affect, depression and low self-esteem, irrespective of voice beliefs, though malevolent voices predominated in their sample and they failed to control for overall symptomatology or voice characteristics.

In an innovative study Birchwood, Meaden, Trower, Gilbert, and Plaistow (2000) utilised Social Rank Theory (Gilbert and Allan, 1998) to further explore voice beliefs and the quasi-interpersonal relationship with personified voices. Social Rank Theory posits that in social relationships, a process of social comparison involving relative strength, power, attractiveness, talent and perceived fit with the social group, leads to the formation of social ranks in terms of dominant and subordinate positions. Being in a subordinate position is associated with a desire to escape but an inability to do so ('entrapment' – Gilbert, 1992), which leads to depression. Birchwood et al (2000) asked subjects to rate themselves relative to their voices (Voice Power Differential; VPD) and other people (Social Power Differential SPD) on a number of dimensions of power (e.g. strength, knowledge, ability to harm) and social rank (Allan and Gilbert, 1995). They found that a belief in voice power was related to depression but not voice related distress. Judgements about the power of the voice relative to the self were predicted by malevolence beliefs and by judgements of social power relative to other people, not by depression or voice characteristics. This strongly supports the cognitive model in that it demonstrates a

strong belief-affect link. Furthermore, appraisals of voice power (B's) are not mood driven or secondary to voice characteristics. Rather, the authors propose that interpersonal schemata may underpin voice interpretation and beliefs, since voice hearers appear to rate themselves relative to their voices in a manner consistent with how they rate themselves relative to other people.

Indeed, in a follow up study of 125 voice hearers Birchwood, Gilbert & Meaden (in press) found a strong relationship between voice power and distress and depression. Path analysis revealed that social rank and social power predicted appraisal of voice power, which in turn, predicted distress and depression. This provides support for two principles of a cognitive model: firstly voice beliefs are linked to affect when voice characteristics are controlled for, and secondly these appraisals are based in more general social schemata. Gilbert et al (2001) replicated the association between power and depression, also finding that higher voice power was associated with a desire to escape or fight the voice and greater entrapment. Gilbert et al (2001) did not however account for physical voice characteristics, and none of these studies controlled for the effect of overall symptomatology on affect.

ii) Prospective Studies

Only two studies have attempted to plot the relationship between voice beliefs and affect changes over time. Lucas and Wade (2001) reported that changes in depression, and voice power emerged as the only predictors of global psychiatric symptom changes over a one-month period. Medication compliance, malevolence and benevolence beliefs and resistance and engagement were not significant predictors. The results require caution, however, given that the authors employed a

probability level which increases the chance of type 1 errors ($p<0.1$) and do not control for voice characteristics.

In a recent longitudinal study, Escher, Romme, Buiks, Delespauls & Van Os (2002; 2003) investigated voice continuation in children over a three-year period. Those children who required mental health care reported a greater perceived influence of the voices on behaviour and emotions and negative affective appraisals. In addition, "care-receivers" reported increased voice activity, anxiety, depression, and problem behaviours. Higher hallucination scores, voice frequency and unpredictable voice triggers predicted voice continuation. Few conclusions can be drawn from this study about voice beliefs, however, given that what the authors describe as beliefs (e.g. "omnipotence") actually encompasses a combination of behavioural and affective consequences (e.g. "the voice makes me scared", "I am getting into arguments because of the voice") as well as belief items.

iii) Summary

In support of a cognitive model, a number of empirical studies demonstrate that voice beliefs do play a central role in determining emotional consequences when voice characteristics and mood factors are controlled for. Furthermore, early evidence suggests that such beliefs are founded in more general social beliefs, adding credence to the notion that beliefs about voices may be rooted in early experience, another tenet of the cognitive model. Voice characteristics however do appear to exert an influence so it is probably more accurate to say that both these A's and beliefs (B's) predict emotional C's.

c) Higher Order Beliefs and Emotional Consequences:

i) A dual effect of schemata?

The finding that both voices (A's) and beliefs (B's) are associated with emotional C's can be understood in two ways. Firstly, the occurrence and persistence of voices alone may cause distress (Johns et al, 2002). Secondly, voices themselves are not pure objective A's. Birchwood et al (2000), for example, found some indication that perception of voice characteristics (e.g. loudness) is not an objective fact and may be influenced by appraisals of voice power (i.e. 'B's might influence 'A's). Furthermore, voice content, like beliefs, is likely to be driven by underlying schemata and be associated with emotional themes. Indeed, voice content often reflects the person's concerns (Chadwick et al, 1996) and some authors note the similarity between voice content and the person's own thoughts in line with models of misattributed inner speech (Beck and Rector, 2003; Gilbert et al, 2001). Cspike and Kinderman (2002: As cited in Beck and Rector, 2003) report strong relationships between negative thoughts, negative voice content and depression.

Gilbert et al (2001) also found similarities between malevolent voices and self-attacking thoughts in depression: in both cases attributions about the power of thoughts and voices relative to the self were associated with entrapment and depression. The authors suggest that critical thoughts and voices may represent an internalisation of shame, criticism and rejection from significant others in early life. Such an idea is consistent with Close and Garety's (1998) finding of negative self-evaluations and low self-esteem in their sample of predominantly malevolent voice

hearers. In line with models of persecutory delusions (Freeman, Garety, Kuipers, Fowler & Bebbington, 2002) it appears that both voice content and beliefs about voices may directly reflect underlying emotional themes, rooted in interpersonal schemata, in contrast to earlier theories, which viewed such delusions as a defence against low self-esteem (e.g. Bentall and Kaney, 1996). Both voice content (A) and beliefs (B) would therefore be expected to be associated with emotional consequences.

ii) A role for metacognitive beliefs?

In a similar line of reasoning to Chadwick and Birchwood's (1994) model, Morrison (1998, 2001) has suggested a role for metacognitive beliefs (B) about voices (A's). He proposes that beliefs about voices (mental events) may operate in a manner similar to those about bodily sensations in panic and intrusive thoughts (Wells, 1997). Morrison suggests that voices may be catastrophically misinterpreted as a threat to physical or psychological integrity (e.g. driving you mad) and that such misinterpretations result from particular dysfunctional metacognitive beliefs (i.e. beliefs about thoughts). Morrison predicts that beliefs about the dangerousness, unwantedness or uncontrollability of mental events (intrusions/voices) rather than the content of them should predict both distress and voice occurrence. He proposes that people who hold metacognitive beliefs about mental events (voices/intrusions) being unwanted and unacceptable are more likely to attribute them to an external source since this reduces cognitive dissonance. Hence voice hearers should show a greater degree of dysfunctional metacognitive beliefs.

Consistent with Morrison's predictions, Morrison and Baker (2000) found that hallucinators had more depression and anxiety related intrusive thoughts and were more likely to worry about them and find it difficult to remove them from their minds (controlling for frequency). Interpretation of voices (how much patients disapproved of them) was the only significant predictor of "worry" about them adding some credence to a cognitive model, though worry is not a true affective consequence. Similarly, Baker and Morrison (1998) found that hallucinating schizophrenics reported more metacognitive beliefs about uncontrollability and danger and more positive beliefs about worry, in a word association task, compared to non-hallucinating schizophrenics and controls. Hallucinators believed their own generated words in a word association task to be less internally generated, less wanted and less controllable. Negative beliefs, in general e.g. superstition, and cognitive confidence items (e.g. "I have a poor memory") were endorsed more by both psychiatric groups. However, the study did not control for anxiety and depression, which are important given that metacognitive beliefs have been implicated in anxiety disorders (Wells, 1997). Indeed, it appears that once these factors are controlled for hallucinators differ only on 'cognitive confidence' (Lobban, Haddock, Kinderman and Wells, 2002). This suggests that differences in metacognitive beliefs are a result of mood variables not hallucinator status and provides little support for a causal role of metacognitive beliefs in mediating voice related distress or voice occurrence.

III. Are behavioural C's associated with beliefs (B's)?

There is currently a paucity of studies examining behavioural consequences, and none have examined these in relation to power beliefs. A number of studies have examined coping strategy use by voice hearers (e.g. McNally & Goldberg, 1997) but these do not examine voice-related beliefs and so are not reviewed here.

Most studies have focussed on the association between malevolence and "resistance" and benevolence and "engagement". "Resistance" is defined as "arguing and shouting (overt and covert), non-compliance or reluctant compliance under pressure, avoidance of cues which trigger voices and distraction". "Engagement" is defined as: "elective listening, willing compliance, and doing things to bring on the voices" (Chadwick and Birchwood, 1994). However "engagement" and "resistance, as measured by the BAVQ and BAVQ-R (Chadwick & Birchwood, 1995, Chadwick et al, 2000) are not purely behavioural but also include positive and negative affective components respectively, which confounds the relationship between beliefs and behaviour.

A strong association between malevolence-resistance and benevolence-engagement is a robust finding (Chadwick & Birchwood, 1994, Birchwood & Chadwick, 1997, Close & Garety, 1998, Beck Sander et al, 1997). Some studies have shown other inter-correlations (e.g. malevolence and engagement) to be strongly negative (e.g. Chadwick et al, 2000) whilst others have noted less clearly demarcated associations (Chadwick et al, 1997; Sayer, Ritter and Gournay, 2000) and that benevolent voices are less likely to be resisted than malevolent voices are to be engaged (Soppit and

Birchwood, 1997). A contamination by voice characteristics e.g. voice loudness or overall symptomatology being associated with resistance and malevolence (Soppit & Birchwood, 1997; Lucas & Wade, 2001) has been reported by some authors, whilst others have found no such effects (Birchwood & Chadwick 1997). Sayer et al (2000) examined the stability of these constructs over one-month finding some variation over time, particularly in malevolence scores.

The other aspect of voice-related behavioural consequences, which has been investigated, is compliance. Chadwick & Birchwood (1994) found that their cognitive model was weakest in accounting for compliance with voice commands, which was predicted by command severity rather than voice beliefs: severe commands to violence or self-harm, were obeyed least, irrespective of malevolence and benevolence beliefs. However, Beck-Sander et al (1997) found an interaction of command severity and voice beliefs: those who believed their voices to be benevolent were more likely to comply with both severe and innocuous commands but not commands to self-harm. Malevolence was not associated with compliance with any commands, but qualitative evidence suggested that a lack of compliance was compensated for by acts of appeasement (e.g. performing other actions or planning but not carrying out the command). These studies did not examine the role of power beliefs in compliance, which arguably shows the greatest association with emotional consequences and would be expected to be associated with consequences of non-compliance (e.g. ability of the voice to harm in retribution). However, power has been found to be associated with a desire to escape from or fight against malevolent voices, though actual acting was not measured (Gilbert et al, 2001). The

role of beliefs, particularly power beliefs, in acting on voices remains under researched.

a) Summary

Many studies do not adequately control for the role of voice form and content in assessing the role of beliefs in mediating affect and behaviour. Those, which do, (e.g. Birchwood et al, 1997) suggest that beliefs about voice power and meaning are important in determining affect, particularly depression. It appears that such beliefs are driven by interpersonal schemata rather than symptom intensity or mood-linked appraisals. Currently studies of acting on voices are lacking. To date there is little convincing evidence of a role for metacognitive beliefs.

Principle 3: Changing beliefs (B's) leads to changes in C's

I Outcome studies (See table 2)

A number of recent randomised controlled trials (RCTs: e.g. Sensky et al, 2000) and positive empirical reviews (e.g. Rector and Beck, 2001; Pilling et al, 2002) have provided support for the efficacy of CBT for psychosis. Birchwood, Iqbal, Trower, Jackson, & Hardy (in submission) assert that targeting emotional and behavioural consequences (C's) of psychotic symptoms (e.g. voices) via the beliefs that maintain them (B's), is more in-keeping with cognitive behavioural principles than aiming to eliminate voices (A's). However, in their review of 13 recent RCTs of CBT for psychosis they note that many trials rely on global symptom measures as outcomes,

Table 2:Outcome Studies

Study	Inclusion Criteria	Design	Intervention	Belief Measure	Affect Measures	Outcome	Comments
Fowler and Morley (1989)	Persistent and distressing auditory hallucinations (Assessed by consultant psychiatrists).	Single Case ABC N=5 (dropout = 3)	Belief modification: reality attribution voices. Bringing on/dismissing voices /Coping Strategies 14 weekly sessions - 6 month follow up.	PQRST: Control over symptoms; distress; reality conviction	0-100 anxiety, sadness, tension anger BDI and STAI	1. Treatment by belief modification, controlling voices and strategies (n=1): Decreased conviction in reality/ increased control./decreased distress & voice frequency. 2. Treatment mainly by distraction (n=3) Increased perceived control & no change in identity/meaning (n=3) Decreased frequency (n=1) 3. Distress change confounded by medication non-compliance (n=1) or no change (n=3) Depression targeted intervention (n=1): no change in voices	No monitoring of medication. Symptom severity Measured (CPRS) not as outcome
Haddock et al 1993	Diagnosis of schizophrenia (Criteria Unspecified) Assessed by HIS and PSE	Case Study BC No baseline N=1 45 years	20 session focusing approach (6 month follow up). Targetted attribution of voices to external sources, guilt, delusional punishment, & mind-reading beliefs	PQRST: external attribution of voices. Diary ratings-content, duration, loudness and distress	HADS PQRST: distress Rosenberg self-esteem scale	Decrease in frequency, duration and distress (PQRST/diary & decreased negative content & loudness (diary). Reduced at follow up Increased internal attribution. Decreased anxiety/depression/ self esteem. Anxiety only maintained at follow up	Confusion over voices versus intrusions. No baseline. Medication monitored. HADS outcome not reported
Chadwick and Birchwood 1994	DSM III-R schizophrenia/schizoaffective disorder.	Single Case AB (n=3) ABC (n=1)	Beliefs about identity power, meaning and compliance Verbal challenge/ empirical testing	Percentage conviction in beliefs	None	1. 18 week treatment Decrease in conviction in beliefs re control, identity and dependence on voice fell from range 85-100 to 0-25 % 2. Similar decreases in conviction 3. Belief in identity eliminated but not in control and only slight for compliance 4. Reductions in uncontrollability and compliance. Reduced frequency and duration of voices (recorded for 2)	Overall symptoms/ medication not controlled for. No measure of distress Baseline n=1 only
Chadwick and Lowe 1994*	Schizophrenia/ Schizoaffective (DSM III-R criteria)	Single Case HM & HJ multiple baseline across individuals (HM/HJ) or delusions (BG)	HJ: Empirical testing then verbal challenge HM: Verbal Challenge then empirical testing BG: Verbal challenge alone Delusions secondary to Voices	PQRST: Conviction Preoccupation	BDI PQRST (anxiety)	HJ: stable baseline; no change with empirical test. Fall in conviction and BDI maintained at follow up. Fall in preoccupation (fluctuating). No consistent anxiety change. HM: Fall in conviction/preoccupation with verbal challenge, decreased further by empirical test. Maintained at follow up. BDI decreased mostly during follow up. BG: Fall in conviction and pre-occupation maintained at follow up. Anxiety consistently low. BDI decreased and maintained.	Thorough assessment No measure of behaviour (demand characteristics)

Key: BDI= Beck Depression Inventory; STAI= Spielbeger State-Trait Anxiety Inventory; CPRS=Comphrensive Psychopathological Rating Scale; HADS= Hospital Anxiety and Depression Scale; PQRST= Personal Questionnaire Rapid Scaling Technique; PSE= Psychiatric: Present State Examination; PSYRATS= Psychiatric Symptom Rating Scale; BAI = Beck Anxiety Inventory; PANNS= Positive and Negative Syndrome Scale; CDS= Calgary Depression Scale; CAS = Cognitive Assessment of Voices Schedule; BAVQ= Beliefs About Voices Questionnaire; CTCH = Cognitive Therapy for Command Hallucinations; HIS= Hallucination Interview Schedule; BPRS= Brief Psychiatric Rating Scale;

Table 2:Outcome Studies (Continued)

Study	Inclusion Criteria	Design	Intervention	Belief Measure	Affect Measures	Outcome	Comments
Morrison (1994)	Schizophrenia DSM III-R	Case Study (AB) N=1	Focussing approach	PQRST	PQRST	Frequency, loudness, hostility, attribution and distress all rapidly reduced.	Subject not on medication Short baseline
Bentall (1994)	Schizophrenia (DSMII-R)	Case studies No baseline N=6	Focussing approach	PQRST(external attribution)	HAD PQRST Diary ratings	Increase in internal attribution of voices for 3 participants. Change in distress for 3 participants Only one linked to attribution change	Lack of baseline
Haddock et al (1996)	Schizophrenia by DSMII-R criteria or PSE.	Between Groups Distraction vs focusing vs no-treatment control N=26	Distraction techniques or Focussing on physical characteristics then content and antecedents – reattribution.	PQRST –external attribution HIS: beliefs and attributions regarding their voices.	HADS PQRST - HIS Rosenberg self esteem scale	Decrease in distress, disruption to life and frequency of voices for both treatment groups. All groups: tendency for voices to be increasingly attributed to own thoughts. Focusers: trend for increased self-esteem (trend for distractors to decrease). No change in anxiety or depression	Control group not given equal activity/attention level.
Til Wykes et al 1999	Schizophrenia DSM IV	Within Subjects 6x 1 hr group sessions 3 month follow up.	Sharing information about voices; models of psychosis & hallucinations; coping strategies; self esteem; model of coping with voices	PSYRATS (AH) BAVQ BPRS-E Self Report Insight Scale for Psychosis Coping Strategies – use and effectiveness (non standardised)	PSYRATS (AH) BDI BAI Rosenberg Self Esteem Scale	BPRS-E significant treatment reduction not maintained at follow up PSYRATS total decreased and maintained. Insight decreased at baseline; increased at treatment and maintained. Specific Measures: Intensity of distress & disruption to life decreased Significant relationship between change in voice power and change in distress over treatment (p=0.04). No change in anxiety or depression. Increased no & effectiveness of coping strategies (not maintained) Trend for ownership of voices; perceived control; perceived power; Self esteem improved over treatment period	Lack of control group Single item measure of power Small sample size High dropout No control for medication changes
Chadwick et al 2000	ICD 10 Schizophrenia Schizoaffective	Group treatment (TAU) N=18 (> 4 sessions completed)	Identity; purpose; power and control. Exploring explanations Socratic dialogue and empirical testing.	Belief conviction (0-100%) Omnipotence, control, personal meaning	HADS Voice Distress (Topography scale)	Significant effects on power and control with trend for meaning No significant change in anxiety or depression. No significant changes in voice topography More successful overall at reducing control than power	Individual differences in power. No overall symptom measure.

Key: BDI= Beck Depression Inventory; STAI= Spielbeger State-Trait Anxiety Inventory; CPRS=Comphrensive Psychopathological Rating Scale; HADS= Hospital Anxiety and Depression Scale; PQRST= Personal Questionnaire Rapid Scaling Technique; PSE= Psychiatric: Present State Examination; PSYRATS= Psychiatric Symptom Rating Scale; BAI = Beck Anxiety Inventory; PANNS= Positive and Negative Syndrome Scale; CDS= Calgary Depression Scale; CAS = Cognitive Assessment of Voices Schedule; BAVQ= Beliefs About Voices Questionnaire; CTCH = Cognitive Therapy for Command Hallucinations; HIS= Hallucination Interview Schedule; BPRS= Brief Psychiatric Rating Scale;

Table 2:Outcome Studies (Continued)

Study	Inclusion Criteria	Design	Intervention	Belief Measure	Affect Measures	Outcome	Comments
Morrison 2002	Bipolar (met DSM IV criteria for schizophrenia)	Case Study N=1	Beliefs about voices as higher power, Education re intrusions/ metacognitions, Manipulation of attention.	PSYRATS (Delusions and Hallucinations) PANNS	PSYRATS –distress	Significant reductions in all aspects of PSYRATS for non AH-related delusion. No reduction in any aspects of PSYRATS –AH Reduction in PANNS total and Global	Visual inspection only No clear baseline
Birchwood et al (2004)	ICD-10 Schizophrenia/ related disorder CH at least 6/12). Recent history of compliance/ with 'severe' commands.	Between Groups RCT: CTCH or (-TAU N=38 randomised. CTCH (n=18)	Targeting of power beliefs to affect compliance, appeasement and distress and increase resistance. Verbal challenge and empirical testing	CAVS; BAVQ Voice Compliance Scale Voice power scale Omniscience Scale PSYRATS PANNS	Calgary Depression Scale Distress (PSYRATS)	CTCH versus Control Power ($p<0.001$) and Omniscience ($p=0,05$ treatment and $p=0.02$ follow-up) significantly reduced in CTCH & maintained. Significant change in perceived control maintained at follow up No change in malevolence. Compliance reduced in both but significant greater in CTCH accounted for by power changes. Decreased distress & frequency in CTCH not maintained. Increased depression in controls treatment to follow up Non-significant reduction in PANNS –AH at 6mths not maintained. Delusions significant reduction at 6mths and sustained	Medication monitored. CT Checklist utilised. 224 referrals only 69 eligible - generalisabilty? No significant drop out diff between groups.

Key: BDI= Beck Depression Inventory; STAI= Spielbeger State-Trait Anxiety Inventory; CPRS=Comphrensive Psychopathological Rating Scale; HADS= Hospital Anxiety and Depression Scale; PQRST= Personal Questionnaire Rapid Scaling Technique; PSE= Psychiatric: Present State Examination; PSYRATS= Psychiatric Symptom Rating Scale; BAI = Beck Anxiety Inventory; PANNS= Positive and Negative Syndrome Scale; CDS= Calgary Depression Scale; CAS = Cognitive Assessment of Voices Schedule; BAVQ= Beliefs About Voices Questionnaire; CTCH = Cognitive Therapy for Command Hallucinations; HIS= Hallucination Interview Schedule; BPRS= Brief Psychiatric Rating Scale;

rather than specific symptom dimensions (e.g. voice distress) or beliefs (e.g. omnipotence), implying that CBT's goal is to eliminate symptoms (e.g. voices).

Furthermore, many trials report affect only as a secondary outcome or fail to do so. Such studies typically employ a wide range of interventions: psychoeducation, coping strategies, verbal and empirical challenging of beliefs, normalising and relapse prevention (Turkington et al, 2003; Birchwood et al in submission). The precise mechanisms of change and active ingredients of CBT, therefore remain unclear (Turkington, Kingdon & Chadwick, 2003). Accordingly, such studies can offer little support for changes in C's being due to belief change and hence support for a cognitive model of voices.

The present review examines only those studies that have reported measures of beliefs about voices, have measured affect, and have utilised some form of cognitive restructuring intervention. Many of these are small n designs or group treatments, with only one RCT reported.

A number of studies have focussed on challenging beliefs in the external attribution or identity of voices. Fowler and Morley (1989), for example offer some support for the effectiveness of verbal challenging of beliefs in altering distress. They found a change in reality beliefs, increased control and reduced distress and frequency for the only one of their five cases to receive verbal challenge, as well as strategies for voice control. Internal reattribution of voices and distress changes, were not apparent for those treated by distraction or mood management even where these resulted in decreased voice frequency and increased control.

Other researchers (Haddock, Bentall & Slade, 1996; Bentall, 1994) have similarly focussed on attempts to reattribute the voice to self, or to increase perceived control over distress (external attributions remaining) by highlighting that it is the person's reaction to and thoughts about the voice, which are distressing. Such studies have utilised a "focussing" approach whereby the individual monitors their voices in a graded fashion from the physical characteristics, to content, thoughts and emotions preceding and following the voice and finally the meaning of the voices. Haddock, Bentall & Slade (1993) report reduced reality beliefs, negative affect and physical characteristics in one case study, although no baseline data was reported and some of the "voices" challenged were more akin to intrusive thoughts. Bentall (1994) found an increase in internal attribution for 3 out of 6 cases but changes in distress were linked to belief change in only one subject and no baselines were reported. Similarly, Morrison (1994) found a rapid reduction in all measures but reported no baseline. In Haddock et al's (1996) study a comparable internal attribution of voices was demonstrated in distraction, focussing and control groups, with treatment groups showing equivalent changes in distress and frequency. Given the equivocal results and alteration in voice characteristics, there is little basis to conclude that a focussing approach leads to changes in voice beliefs or that this is associated with distress change.

Chadwick and Lowe (1990; 1994) attempted to modify idiosyncratic delusional voice beliefs by verbal challenge and empirical testing. They found a fall in conviction and preoccupation in all cases, with a decrease in depression in two during treatment; however the relationship to anxiety was unclear. Chadwick and Birchwood (1994) found that beliefs about identity, control and compliance were

susceptible to verbal challenge and empirical testing in some cases and found that, despite the absence of coping strategy teaching, voice frequency also decreased. They fail however to report any secondary effects on affect.

Some authors have used a more targeted intervention approach, directed specifically at power beliefs. Wykes, Parr & Landau (1999) for example, used a broad range of group-based "CBT" interventions and found significant reductions in overall symptomatology, intensity of distress as well as increased self-esteem and coping strategy use. Reductions in voice power were significantly related to reductions in distress. However, the effect of cognitive restructuring per se on beliefs and hence the B-C link is less clear given multiple interventions, concurrent changes in voice frequency and the lack of a control group. Chadwick, Sambrooke, Rasch & Davies (2000) also targeted beliefs in power, control, meaning and identity, by Socratic dialogue and empirical testing in a group intervention. Significant changes in control and power beliefs were achieved but individual power changes were variable and not large and there were no secondary effects on anxiety and depression.

Trower et al (2004) provide the most convincing outcome data to date in support of a cognitive model. Their RCT specifically targeted power beliefs in people experiencing severe command hallucinations, with which they had previously complied. Verbal challenge and empirical testing led to significant changes in perceived voice power, omniscience and control compared to treatment as usual. Furthermore, compliance (a behavioural C) decreased more in the treatment group and this was predicted by changes in power beliefs (B's). A reduction in distress (emotional C) occurred but was not maintained at follow up. At follow-up the

control, but not the treatment group showed significantly higher depression scores. Significant reductions in voice frequency (but not loudness, duration or negative content) occurred despite the absence of instruction in coping strategies and medication changes. This study thereby offers support that modification of beliefs in the power of the voice can produce affective and behavioural change. In addition, there was no significant reduction in overall auditory hallucinations symptomatology as measured by the Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein & Opler, 1987), suggesting that affect changes cannot be accounted for by changes in overall voice symptomatology. The study does however, requires replication, given the small sample size and lack of control for therapist attention.

a) Summary

These studies suggest that voice beliefs are amenable to change via verbal challenge and empirical testing. Secondary changes in affective factors and hence the primacy of beliefs is less clearly demonstrated. Most reports are, however, single case studies, many with no baseline or small-n designs, which are poorly controlled. Trower et al (2004) is the first study to convincingly demonstrate outcomes congruent with the cognitive model, i.e. that modification of power beliefs (B) produces concurrent changes in both affect and behaviour (C's).

Conclusions

Theoretical and intervention studies are beginning to converge in support of a cognitive model of voices. Whilst many empirical studies have failed to account for voice and symptom variables, those which have (e.g. Birchwood and Chadwick, 1997; Birchwood et al, 2000), generally support an association between power beliefs and emotional C's. Furthermore, power beliefs appear to be driven by interpersonal schemata rather than mood or voice characteristics, which is also in line with cognitive principles. Malevolence and benevolence beliefs also appear to be important but are more often confounded by symptom variables e.g. voice content, though some studies suggest they exert an influence on affective consequences independent of voice factors (e.g. Van der Gaag et al, 2003). Whilst voice characteristics (A's) exert an effect on mood variables this does not account for the impact of beliefs. Overall, emotional C's appear to be associated with B's, as a cognitive model would suggest. A causal or maintaining role for metacognitions, however, has not been demonstrated. A further consistent finding is that coping style (resistance vs. engagement) is mediated by beliefs. Despite evidence from Trower et al's RCT (2004), however, empirical studies have yet to demonstrate a link between voice power and compliance or behavioural C's generally.

Convincing evidence for the mechanism of change for CBT for voices also remains sparse. Whilst delusional beliefs can be challenged the effect on affect and support for the cognitive model (i.e. whether changes in B's produces changes in C's) is less clear. Few studies have been theoretically driven i.e. targeting specific beliefs with

specific intervention strategies, and reporting specific outcomes. The use of verbal challenge and empirical testing of power beliefs is a promising area. Empirical and intervention studies require replication and development, taking into account flaws in existing methodologies.

Methodological considerations and future research

Despite preliminary evidence for a cognitive model, a number of methodological issues require consideration. Many findings are based on small sample sizes and fail to control adequately for the variables involved: a lack of control for the effect of overall symptomatology and voice characteristics in many studies limits the conclusions, which can be drawn about the role of beliefs. One limitation of all studies is that they focus solely on the dominant voice: many individuals experience multiple voices but the interactions between different voices (e.g. a benevolent voice providing protection from a malevolent one) are ignored. In addition, as Freeman & Garety (2003) note, no study has yet to sample the non-verbal aspects of voices (e.g. voice tone), which may affect or be affected by voice interpretation.

In addition, a confusing number of affective outcome measures are utilised. Some measures are concerned specifically with voice-related distress such as PSYRATS (Haddock et al, 1999) or the BAVQ-R (Chadwick et al, 2000) whilst others are concerned with more general constructs such as depression and anxiety. Whilst affect constructs such as delusional distress and anxiety are likely to be related it is unlikely that they are the same and the interrelationship between them requires clarification. A variety of belief measures are also used across studies. Measures of

power include single item measures, which are susceptible to measurement error (Birchwood and Chadwick, 1997), or multi-item constructs of omnipotence (Chadwick et al, 2000) and the Voice Power Differential (VPD; Birchwood et al, 2000), the latter including elements of social comparison. Omnipotence and VPD items clearly overlap with the malevolence construct (e.g. 'My voice will harm or kill me if I disobey or resist it') confounding results. Furthermore, the expression of power in benevolent voices may be qualitatively different and is currently under-researched. No study has yet examined the relationship between power measures or the relative importance of individual power items.

The expression of power in malevolent voices and its relationship to perceived threat (e.g. threat of physical harm, psychological harm and shame) also requires clarification. Morrison (1998), for example suggests that psychological threat may be important in making mental events and voices distressing. Furthermore, the degree of conviction in external attribution and voice identity has not been included in studies of voice power. It is logical to suppose that identity beliefs are related to voice power though the relative importance is unclear. Evidence of voice power might lead to interpretation of the voice as being God for example, or conversely a voice identified as God, might be inherently powerful. Birchwood et al's (2000) findings, however, suggest that general judgements about relative social power and social rank may be primary, as does the role of neuroticism and low self-esteem in the later development of psychosis (Krabbendam et al, 2003).

The perceived identity and origin of voices is likely to interact with threat perception. Non-interpersonal threats such as uncontrollability (a component of omnipotence) could be present in those who view their voices as thoughts or as

external entities, whilst others e.g. physical harm are more clearly interpersonal. It may be that metacognitions (beliefs about thoughts) are, by definition, more relevant to a subset of voice hearers who believe voices to be mental events.

Current studies of metacognitive beliefs (e.g. Lobban et al, 2002) tend to compare hallucinators to non-hallucinators, finding little positive support for differences in metacognitive beliefs. As a causal explanation of voices Morrison's (1998; 2001) theory fails to account adequately for why people with intrusive thoughts do not develop voices or why voices with positive content, which are not distressing or do not cause cognitive dissonance would be externally attributed. Furthermore, even if voice hearers find their mental events more dangerous and uncontrollable this could be a secondary to the trauma of hearing voices rather than causal. It may prove more useful to view metacognitions as maintenance factors and to compare voice hearers who find their voices distressing to those who do not. It may be that metacognitive beliefs contribute to distress but to investigate this in a theoretically parsimonious way, it would be necessary to control for voice beliefs, which have proven associations with affect (malevolence and power). The relationship of metacognitions to voice identity (an external interpersonal attribution) within groups of voice hearers is also important given Morrison's (2001) assertion that voice hearers with more dysfunctional metacognitions should be less able to reattribute their voices to an internal source.

The relationship between voice beliefs and behavioural consequences is particularly under-researched. The majority of studies have measured "resistance" and "engagement" (Chadwick & Birchwood, 1995) which are actually composites of

behavioural and affective items. Morrison (1998) has suggested that distress and threat appraisal in voice hearers may be maintained by processes common to anxiety disorders e.g. safety behaviours, designed to reduce threat. In support of this idea voice hearers do engage in appeasement, if not compliant behaviours, with powerful malevolent voices, presumably to prevent adverse consequences (Chadwick & Birchwood, 1994; Beck-Sander et al, 1997). Given that safety behaviours occur in people with persecutory delusions (Freeman et al, 2001) and that malevolence and power beliefs essentially constitute persecutory delusional beliefs, an area for future investigation would seem to be safety behaviour use in voice hearers.

Currently, an understanding of higher order beliefs such as schemata or evaluative beliefs is lacking, particularly for benevolent voice hearers. Power beliefs appear to be rooted in interpersonal schemata but the relationship of such core beliefs to malevolence and benevolence is under researched. The initial evidence for the influence of schemata is supported by findings that recovery is linked to early attachment experiences (Drayton, Birchwood & Trower, 1998) and that low self-esteem and neuroticism are risk factors for later psychosis (Krabbendam et al, 2003). The origins of such schemata are unclear and could result from early experience, being linked to premorbid risk factors (Krabbendam et al, 2003) or result from being "down-ranked" by illness and diagnosis, with associated social stigma and loss of social role (Rooke and Birchwood, 1998). The role of interpersonal schemata in generating beliefs about voices and emotional consequences has profound implications for treatment approaches: removal of the voices per se would not be expected to remove underlying beliefs and emotional distress as the AC model would predict (Birchwood et al, in press). Treatment studies which account for level

of intervention i.e. symptomatic relief versus evaluative belief change or schema-based interventions (e.g. Young, 1994) would be a welcome addition.

Evidence for the cognitive model of voices, from both theoretical and outcome data, remains tentative though initial results are promising. Most empirical studies are correlational and do not allow causal inferences. Therefore, existing empirical models may be best developed alongside outcome studies, which are increasingly theory-driven. The evidence to date, however, suggests that models, which rely primarily on the presence or absence of symptoms without recourse to phenomenology, will be ineffective. They will fail to explain the distress occasioned by voices and to make sense of behaviours, which objectively may appear bizarre, yet may have a subjective logic. In contrast, the cognitive model firmly places the individual at the centre of understanding the phenomenon of voices.

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Chapter II: Empirical Paper 1

Categories Of Safety Behaviour Use In Voice Hearers:

An inter-rater reliability study of the Safety Behaviour Questionnaire

Chapter word count (Excluding table): 1995 words

Abstract

Objective

The present study aimed to establish the reliability of safety behaviour categories in voice hearers, on a semi-structured interview designed for use with people with persecutory delusions.

Method

Thirty voice hearers with a diagnosis of schizophrenia were interviewed. Safety behaviours elicited were assigned to pre-existing categories by three independent raters and inter-rater reliability assessed.

Results

Avoidance, in-situation, compliance, aggression and escape categories showed excellent reliability whilst help-seeking and rescue factors showed good and fair reliability respectively.

Conclusions:

Categories of safety behaviour use found to be applicable to people with persecutory delusions are also applicable to voice hearers. It is argued that the Safety Behaviour Questionnaire is a useful clinical assessment tool for working with voice hearers. Test-retest reliability remains to be established.

Categories Of Safety Behaviour Use In Voice Hearers:

An Inter-Rater Reliability Study Of The Safety Behaviour Questionnaire.

Background

Contemporary cognitive models of anxiety disorders have sought to include the influence of behaviour on the maintenance of distress (e.g.: Wells, 1997). 'Safety-seeking behaviours' have been implicated in maintaining anxiety by preventing disconfirmation of threat beliefs (Salkovskis, 1991). Freeman and Garety (2003) have suggested that the perception of threat and impending danger is common to both anxiety and persecutory delusions. A recent pioneering study (Freeman, Garety and Kuipers, 2001) investigated the use of safety behaviours in 25 people with persecutory delusions. Broadly, results indicated that the use of safety behaviours to reduce a perceived threat from persecutors was common and associated with affect variables.

In their study, Freeman et al (2001) utilised a newly developed structured clinical interview schedule (The Safety Behaviour Questionnaire- Persecutory Delusions), which enquires about various types of safety behaviour used in the last month in relation to a perceived threat from persecutors. The interview initially asks for any behaviours which have been carried out in the last month to minimise, reduce or prevent the threat from occurring. Answers given in this free response section are categorised by the interviewer into one of the pre-defined categories. The SBQ then contains specific probes for the predefined categories of safety behaviour, which are: avoidance, escape, in-situation safety behaviours,

aggression, compliance, help-seeking behaviours and rescue factors (factors beyond the person's immediate control which may have prevented harm occurring). In addition, behaviours not thought by raters to logically reduce a perceived threat are classified as "delusional actions".

The Safety Behaviour Questionnaire (SBQ) requires participants to rate each safety behaviour (SB) on a 0-4 scale regarding frequency of use of the behaviour in the last month ('1' occurred at least once; '2' occurred more than once, less than five times; '3' occurred at least five times; '4' present continuously - at least every day). The sum of frequency of safety behaviour use multiplied by the number of safety behaviours is used to generate category scores and an overall SB total score. The SBQ was found to be generally reliable across raters (with the exception of "delusional actions") and across time (one week; n=10) for Total score, avoidance, in-situation and escape (Freeman et al 2001).

The present study formed part of a larger scale study (Hacker, Birchwood, Tudway & Meaden, 2004) investigating safety behaviour use in voice hearers. The SBQ overall score was used on this population, as it is possible to construe beliefs about voice malevolence and omnipotence (Chadwick and Birchwood, 1994) as secondary persecutory delusions. It was necessary, however, to re-assess the inter-rater reliability of SBQ category scores for voice hearers, given that some behaviours may be qualitatively different (e.g. attempts to reduce voice activity) and consequently may influence reliability co-efficients. Furthermore, Freeman et. al. (2001) report inter-rater reliability utilising audiotaped interviews that were subsequently re-rated by a post-Doctoral Trainee Clinical Psychologist.

Since the SBQ has set questions for each SB category to which the interviewee responds, then a second rating by audiotaped interview, has inherent demand characteristics (Orne, 1962) for categorising each behaviour, and this may artificially inflate inter-rater reliability co-efficients.

Method & participants

The SBQ was administered as part of a battery of measures to 30 participants with an ICD-10 diagnosis of schizophrenia, all of whom reported hearing voices at the time of the study (Hacker et al, 2004). Inter-rater reliability was then assessed, by comparing the categorisation of behaviours by the interviewer (a Trainee Clinical Psychologist) and two independent raters both of whom were experienced Clinical Psychologists working in Psychosis services. Raters were provided with a summary for each participant which included: examples of voice content; a summary of the person's delusional beliefs about the voice; details of the type of threat perceived and a list of safety behaviours reported. A list of definitions of safety behaviours, based on the questions in the SBQ, was also provided (**Appendix E**).

Freeman et al (2001) defined delusional actions as those, which were rated by the participant as reducing threat but did not fit existing categories or did not seem to reduce threat in an understandable way. This category showed poor test-retest and inter-rater reliability. Given that all safety behaviours used in relation to a delusional threat based on delusional beliefs (e.g. about voice omnipotence) are inherently "delusional" this category was felt to be misleading. Furthermore, it is

not the objective ability to reduce threat, which is important but the subjective rating. Therefore, for the present study, the category of "delusional actions" was excluded and replaced with "unable to categorise".

Raters were instructed to categorise each behaviour into only one category. If the behaviour applied to two categories they were asked to decide which they considered to be most appropriate. In the event that they were unable to categorise behaviour they were requested to place it in the "unable to categorise column".

Results

Data were categorised as '1' (belongs to category) or '0' (does not belong to category) and entered into SPSS version 11.5 for analysis. Analysis of inter-rater reliability was conducted by Cohen's Kappa, which takes into account the amount of agreement expected by chance (Clark-Carter, 1997). Initial probability levels ($\alpha = 0.05$) were then adjusted for multiple comparisons using the Bonferroni Correction. Table 1 shows inter-rater reliability for categories in the current study and for those of Freeman et al 2001.

Intra-class Kappa values for avoidance, in-situation, compliance, aggression and escape categories were 'excellent' whilst help-seeking and rescue factors showed 'good' and 'fair' reliability respectively (Robson, 1993). The exception was the "unable to categorise" category which had approximately 3 entries per rater and no agreement. The original aim of this category i.e. to produce new categories for those behaviours, which did not fall into the existing ones, was neither

possible nor necessary. The original categories used in the Freeman et al (2001) study appear to apply as well to voice hearers as they do to people with persecutory delusions.

Table 1: Inter-rater reliability for Safety Behaviour categories in the current study and for those of Freeman et al 2001

	R1-R2	R2-R3	R1-R3	Mean of correlations	Kappa Indication agreement*	Freeman (2001) Kappa values
Safety behaviour						
Avoidance	0.955	0.967	0.943	0.955	*Excellent*	0.99
In-Situation	0.825	0.792	0.789	0.802	*Excellent*	0.97
Escape	1	0.931	0.931	0.954	*Excellent*	1.00
Aggression	0.864	0.817	0.844	0.842	*Excellent*	1.00
Compliance	0.898	0.843	0.743	0.828	*Excellent*	0.98
Help-Seeking	0.825	0.594	0.641	0.687	*Good*	0.98
Rescue Factors	0.855	0.402	0.316	0.524	*Fair*	0.86
Unable to categorise	-0.014	-0.025	-0.015	-0.018	*Poor*	N/A

***Kappa:** Descriptors as given by Robson (1993)A value of 1 indicates perfect agreement., Values lower than 0.4 represent poor agreement; 0.4 to 0.6 fair agreement; 0.6 to 0.75 represent good agreement and values higher than 0.75 excellent agreement.

Qualitative Examples of Safety Behaviours

Examples of safety behaviours reported in the last month for each category are given below along with percentage use across participants (N=30).

Avoidance (76.7%): Examples included avoidance of eating particular foods because they might be poisoned, avoiding walking out in crowds because zombies or demons (perceived source of voices) would be less visible if they attacked; avoiding social gatherings because the voices might tell other people things and shame the person; avoidance of being at home alone because of being

more vulnerable to compliance with commands to self-harm; avoiding buying music tapes because of derogatory comments from the voice.

In-situation safety behaviours: (70%) Examples included: hypervigilance e.g. checking through windows to see if persecutor (voice) is coming to harm person; engaging voices in a different topic of conversation so that they were not able to say something shameful which others may hear; holding batteries in hand to throw in face of attacker (voice); walking over drains in the road to absorb kinetic energy hence making oneself invulnerable to attack; going to the shops by a different route and changing clothes or disguising self en route; telling the voices that you're going out at one time and going at another to confuse them; wearing a religious talisman to ward off black magic from the voices; attempts to reduce voice activity (usually against psychological threat).

Escape (23.3%). Examples included: Leaving home because the voices said they were coming; leaving the communal lounge because of fear of compliance with embarrassing voice commands.

Aggression (53.3%): Shouting back at the voices e.g. insults, threats or refusals to commands; hitting other people pre-emptively believing they were acting under the power of the voices and may harm the voice hearer.

Compliance (50%): Full compliance with commands (e.g. hitting others; smashing windows); overt appeasement (doing things to prove voice criticism wrong e.g. showering very frequently because of voice comments about being

dirty; getting the voice a job "psychically" to appease them and prevent physical harm); covert appeasement (e.g. mentally rehearsing self-harm to appease the voice without intending to carry it out).

Help-seeking (40%): Contacting a "good alien" via telepathy who has prevented harm from malevolent voices; praying to God; seeking reassurance from staff that voices are not coming; asking the priest for forgiveness in hope that shaming voices will stop; asking relatives to accompany them for protection when going out; asking to be arrested by the police to provide safety from voice threats.

Rescue factors (10%): e.g. God intervening (believed to have happened due to non-occurrence of harm).

Discussion

The existing SBQ categories clearly apply to voice hearers with malevolent voices, and yield high reliability coefficients. It should be acknowledged that the current study introduces a different potential bias in that the information provided to independent raters was summarised by the interviewer (e.g. summary of delusions). The converging evidence, however, from this and the Freeman et al (2001) study suggest that, overall the SBQ categories have high inter-rater reliability.

Raters reported some confusion between rescue factors and help-seeking categories. For, example praying to God might be viewed as "help-seeking" but

whether God intervened might be outside of the person's control (hence a rescue factor). In addition, the in-situation category appeared somewhat over-inclusive and the establishment of sub-categories might be a useful next step. Similarly, it appeared that compliance could potentially be sub-divided into full compliance, overt appeasement and covert appeasement, as other authors have suggested (Beck-Sander et al, 1997).

It should also be noted that the SBQ presents with something of a bias towards "avoidance" in that this is the only category to have an additional forced choice (yes/no) section, to which participants responded more easily. This may partly explain why avoidance was the most frequently reported category in both Freeman et al (2001) and the present study. The development of a true questionnaire of the behaviours identified to date and subsequent factor analysis may prove useful to further investigate the types of safety behaviour utilised by people with persecutory delusions or malevolent voices. Furthermore, neither study examined the relative distribution of safety behaviour types with each type of threat (e.g. social, physical and psychological). It was noted that some behaviours (e.g. attempts to reduce voice activity) were more commonly associated with particular threat types (e.g. psychological).

Freeman et al (2001) found high test-retest reliability for only avoidance, in-situation, and escape categories with marginal reliability for compliance and poor for the remaining factors. The stability of sub-categories scores (test-retest reliability) remains to be established. This will be necessary before the SBQ can be used as a detailed outcome measure of the use of different safety behaviours,

and changes over time. Currently, the SBQ provides a valid and reliable measure of overall safety behaviour use and a potentially useful clinical assessment tool in working with people with persecutory delusions and voices.

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Chapter III: Empirical Paper 2

The Omnipotence of Voices:

Sources of threat, safety behaviours and the maintenance of delusional distress.

Chapter word count (Excluding tables and references): 5972

Abstract

Background

The use of safety behaviours in anxiety disorders is common and implicated in the maintenance of threat beliefs and distress. It is argued that delusional beliefs about voice omnipotence and malevolence, which are associated with distress and depression, similarly involve threat beliefs. In the present study we investigate safety behaviour use in voice hearers and their role in maintaining beliefs about voices, perceived threat, and distress.

Method

Thirty voice hearers with a diagnosis of schizophrenia were compared on a series of self-report measures. Detailed assessment was made of delusional beliefs, voice characteristics, affect and safety behaviours.

Results

Twenty-six individuals had used safety behaviours in the last month and believed them to be effective in preventing harm from voices. Safety behaviour use was associated with voice omnipotence and distress. The best predictor of safety behaviour use was voice omnipotence when controlling for mood and voice variables.

Conclusions

The results are consistent with a cognitive model; beliefs about voices are implicated in both the affective and behavioural response to voices. It is speculated that voice and threat beliefs may be maintained by safety behaviours, which prevent disconfirmation of threat.

Background

The extent to which people with psychosis act upon their delusional beliefs, has been a matter of theoretical and clinical debate (Buchanan, 1993; Junginger, 1996). Wessley et al (1993) and Buchanan et al (1993) found that acting in a manner congruent with delusional beliefs was particularly common in persecutory delusions and was associated with negative affect and being able to cite evidence for the delusion. Acting on auditory hallucinations or "voices" (e.g. compliance with commands) is also associated with subjective factors such as identification of the voices as real people or entities, hallucination related delusions, and emotional involvement with the voices (Erkwoh, 2002; Junginger, 1990, 1995). Failure to control for such factors may account for conflicting results in the association between voices and violent behaviour (Bartels et al, 1991; Bjorkly et al, 2002; Link et al, 1992).

Voice hearers commonly construe their voices as real and relate to them in an interpersonal fashion (Benjamin, 1989; Nayani and David, 1990). Birchwood and Chadwick (1997) and Birchwood et al (2000) provide empirical support for understanding such relationships within a cognitive behavioural framework. They conceptualise voice activity as an activating event and implicate delusional beliefs about voices, e.g. voice identity or purpose, as important in determining affect when the characteristics of the voice itself (e.g. voice content, frequency, loudness etc.) are controlled for.

Recent studies indicate that specific beliefs about the power or omnipotence of voices and beliefs about malevolence are associated with depression and voice-related distress (Birchwood et al, 2000, Birchwood et al (in press); Chadwick et al, 2000). Conceptually, omnipotence and malevolence beliefs about voices may be viewed as secondary persecutory delusions. "Malevolence" essentially constitutes a belief in the intent of the voice to harm (e.g. as punishing, as out to corrupt or destroy, as evil). Voice power or, more broadly, omnipotence beliefs essentially constitute the ability of the voice to carry out its threatening intent. In addition to voice power, omnipotence encompasses the ability to know and reveal personal information (omniscience), the ability to harm, uncontrollability, and the perceived consequences of disobedience (Chadwick et al, 2000).

Morrison (1998; 2001) has proposed that voice related distress might be maintained by misinterpretations of the voice as a threat to both psychological safety (e.g. being driven mad) and physical safety (e.g. being killed). Clinical evidence suggests that voices may also shame the individual i.e. social threat (Chadwick et al, 1996). Logically, such threatening misinterpretations should relate to delusional beliefs about voice omnipotence and malevolence, though this has yet to be explicitly investigated. Clearly, perceived threats and anticipation of danger should be associated with distress as they are in anxiety disorders (Freeman et al, 2003). Morrison (1998) has therefore suggested that safety behaviours, a maintenance process drawn from contemporary cognitive models of anxiety disorders, may be implicated in maintaining threatening misinterpretations about voices.

Safety behaviours form part of the cognitive account of anxiety disorders such as social phobia, and panic (Wells, 1997). In behavioural accounts of anxiety disorders (e.g. Rachman, 1977), anxiety is maintained because avoidance or escape prevent exposure and habituation to anxiety provoking stimuli; the person's behaviour is targeted at seeking relief from anxiety or distress. According to a cognitive account, however, it is not anxiety or distress that is avoided, but a perceived threat or feared outcome such that the person's actions are targeted at seeking safety (Salkovskis, 1991). Anxiety itself is avoided only if associated with a perceived threat (e.g. heart palpitations in panic being associated with threat of having a heart attack). 'Safety-seeking behaviours' maintain threat beliefs since non-occurrence of threat is attributed to the behaviour, not the absence of threat, and the event is interpreted as a 'near miss'. Distress is therefore maintained indirectly via threat appraisal and response.

Freeman, Garety and Kuipers (2001) report evidence that individuals with persecutory delusions use safety behaviours to mitigate physical, psychological and social threats. Avoidance of situations and activities were most frequently reported. In addition, people attempted to protect or disguise themselves from persecutors, be hypervigilant for threat (in-situation safety behaviours) or leave situations perceived as threatening (escape). Aggression, seeking help and compliance with persecutors were also reported. The authors report that delusional distress was associated with delusional threat whilst safety behaviour use, particularly avoidance, was associated with anxiety. It is unclear, however, whether mood (i.e. anxiety) rather than delusional belief was driving behaviour (e.g. avoidance); it would be anticipated that delusional distress would be related

to attempts to reduce delusional threat (safety behaviours), yet this relationship is not reported. Freeman et al (2001) also found that aggression related to anger whilst compliance and the perceived power of the persecutor related to depression. The authors do not, however, report the relationship between beliefs about the persecutor's power and safety behaviour use.

Birchwood et al's (2000) findings would suggest that power is a crucial construct as it has been linked to a desire to fight against or escape malevolent voices, but an inability to do so (i.e. "entrapment") and depression. (Birchwood et al, 2000, in press ; Gilbert et al 1992; Gilbert et al 2001). Furthermore, voice hearers often feel compelled to comply with their voices or take action to appease them following non-compliance, presumably to prevent adverse consequences, such that this might be considered a safety behaviour (Beck-Sander et al, 1997; Chadwick and Birchwood, 1994). In a recent treatment study challenging voices' power led to reduced compliance with voice commands (Trower et al, 2004).

The present study follows Freeman et al (2001) and Birchwood et al (1997) in investigating whether people who hear voices engage in safety behaviours to reduce perceived threat from their voices. In line with the cognitive models of voices (Chadwick and Birchwood, 1994) and anxiety disorders (Wells, 1997) it is proposed that safety behaviour use will be active in the maintenance of perceived threat from voices perceived to be malevolent (intending to harm) and omnipotent (able to harm). It is therefore anticipated that safety behaviour use will also be associated with voice related distress. It is hypothesised that the necessity of constantly engaging in safety behaviours will lead to an increased

sense of entrapment and depression. As emotional and behavioural consequences may be influenced by voice characteristics (e.g. voice frequency, loudness, negative content) these are controlled for in the present study.

Hypotheses

Hypothesis 1

Voice hearers engage in safety behaviours to mitigate perceived physical, psychological and social (shaming) threats from voices.

Hypothesis 2

Beliefs about voice omnipotence and malevolence will be associated with (i) a greater degree of perceived threat, (ii) increased use of safety behaviours, independent of voice characteristics.

Hypothesis 3

Beliefs about benevolent voice intent will be associated with (i) lower safety behaviour use and (ii) lower degree of perceived threat and distress, independent of voice characteristics.

Hypothesis 4

Increased safety behaviour use will be associated with increased levels of voice-related distress, independent of voice characteristics.

Hypothesis 5

Voice power, omnipotence and safety behaviour use will be associated with increased entrapment and depression.

Method

Sampling

Inclusion criteria were: an ICD-10 diagnosis of schizophrenia (F20); age 18-65 and a current experience of auditory verbal hallucinations for at least 6 months. Participants with marked thought disorder or negative symptoms were excluded if these were judged by referrers to render interviewing impossible. Participants with a primary diagnosis of schizoaffective disorder were excluded due to possible confounding effects on mood measures.

Power Analysis

A prospective power analysis was undertaken as recommended by Cohen (1992), based on the use of Pearson's Product Moment Correlation. Previous studies with related comparisons had reported effect sizes for the relationship between delusional beliefs, behaviour and affect, in the magnitude of 0.4 to 0.45 (Freeman et al, 2001) and 0.5 to 0.6 (Gilbert et al, 2001). Anticipating an effect size of r = 0.5 (large effect size as defined by Cohen (1988) indicated a required sample size of n=30 for power of 0.82 (two tailed) or n=25 for power of 0.83 (one-tailed).

Participants

Participants were recruited via assertive outreach and rehabilitation services in Birmingham and Solihull Mental Health NHS Trust, Warwick Primary Care Trust and Sandwell Primary Care Trust. Referrals were sought from Keyworkers, Consultant Psychiatrists and Clinical Psychologists. Participants were given a written information leaflet by referrers and allowed at least 24 hours to consider participating. Written, informed consent was taken by the principal researcher.

Measures (see Appendix D)

Cognitive Assessment of Voices Interview Schedule (CAVS) (Chadwick and Birchwood, 1994): A semi-structured interview designed to qualitatively sample voice content, beliefs about identity, purpose and meaning. The CAVS has 'good' test-retest and inter-rater reliability (Close and Garety 1998).

Appraisal of Threat: The perceived threat from voices was rated on three 10 point scales, from '0', 'not at all' to '10', 'very much', designed specifically for this study. Participants were asked to rate how much they worried that: they or someone else would be physically harmed by the voice (physical threat); the voice might shame them or reveal bad things about them to others (shame threat); the voice might drive them mad or cause them to lose control (psychological threat). 'Total threat' represented the sum of these ratings. Qualitative details of the threat were also recorded.

Beliefs about Voices Questionnaire- Revised (BAVQ-R), (Chadwick et al, 2000.) Beliefs about voice Omnipotence, Malevolence and Benevolence were sampled, with participants rating their responses on a 4-point Likert-type scale from 'Disagree' (0) to 'Agree Strongly' (3). The BAVQ-R has "uniformly high" internal reliability (Cronbachs alpha - average of subscales 0.86) and good construct validity as measured against the HADS (Zigmund and Snaith, 1983).

Hospital Anxiety and Depression Scale (HADS: Zigmund and Snaith, 1983). *A 14* item, self-administered scale of depressive (7items) and anxious (7 items) symptoms rated on 0-3 scales. The HADS has good internal reliability (alpha coefficients of 0.84 and 0.83 for the anxiety and depression subscales respectively), consistent 2-factor structure, validity, and test-retest reliability (Dagnan et al, 2000; Johnson et al, 2000). It offers a measure of depression free from cognitive components, which is useful when examining cognitive processes (Dagnan et.al, 2000) and has been used with psychotic populations (Chadwick et al, 2000; Tyrer, et al, 1998).

Entrapment Subscale of the E-Scale (Gilbert et al, 2001): Five items measure entrapment: "I feel trapped with my voices"; "I can see no way of getting away from my voices"; "I feel cornered by my voices; "I feel I can't get away from my voices no matter how hard I try" and " I feel closed in by my voices". Participants rate the extent to which they endorse these items on a five-point

scale ranging from "not at all like me" to "extremely like me". The scale has very good internal reliability (Cronbach's alpha =0.90).

Voice-Power Differential Scale (Birchwood et al, 2000)

Participants rate themselves relative to their voice on six bipolar constructs pertaining to strength, power, confidence, respect, ability to inflict harm, superiority and knowledge. Responses are given on a five point scale ranging from "I am much more [x] than my voice through to "My voice is much more [x] than me. The scale has been reported to have good internal reliability (Cronbachs alpha =0.85) (N=59) and 1 week test-retest reliability r =0.82 (N=25).

The Safety Behaviour Questionnaire (Freeman et.al, 2001). A semi-structured interview measuring categories of safety behaviour use in people with persecutory delusions, including: avoidance, in-situation behaviours, escape, aggression, compliance, help-seeking and rescue factors. Participants rate each safety behaviour used in the last month, on a four-point frequency scale ('1' occurred at least once; '2' occurred more than once, less than five times; '3' occurred at least five times; '4' present continuously - at least every day). A total score (total SB score) is calculated by multiplying the frequency for each behaviour by the number of safety behaviours. Inter-rater reliability is 'very high' (Kappa =1.00 total SB score) and test-retest reliability acceptable (r= 0.74). Total SB and avoidance correlated significantly with the Fear Questionnaire-Agoraphobia (Marks and Matthews, 1978) (0.77) score suggesting scale validity. The SBQ categories were reassessed for inter-rater reliability using voice hearers

with a diagnosis of schizophrenia, yielding Kappa values which were "excellent" for avoidance, in-situation, escape, aggression and compliance, good" for help-seeking, and "fair for rescue factors ($p<0.017$), (Hacker, Birchwood, Tudway, Meaden & Amphlett, 2004).

Psychiatric Symptoms Rating Scale –Auditory Hallucinations (PSYRATS – AHRS; Haddock et al, 1999): Measures voice characteristics (frequency, intensity, duration, amount and degree of negative content), delusional conviction in the identity/reality of the voice; intensity and frequency of voice-related distress. Items are rated on standardized (0-4) scale. The scale was found to be valid and inter-rater reliability for all items used in this study (across six raters) was in excess of 0.90.

Procedure

Interviews lasted for approximately one and a half hours. Participants were first administered the CAVS to determine the most dominant/ distressing voice, which was then the subject of subsequent measures. Participants' completed ratings of perceived threats, which were then used to elicit safety behaviours using the SBQ. (N.B. Only safety behaviours and threats that related directly to voices or people or entities believed to be acting under the influence of the voices were included). The remaining measures were then administered.

Design and analysis

The study utilised a cross-sectional correlational design, for which no control group was required. The distribution of data was analysed using the Kolmogorov-Smirnov test of normality. Where data were normally distributed, parametric analysis i.e. Pearson's Product Moment correlation was utilised. Further analysis was performed using hierarchical multiple regression. Where data did not meet assumptions for parametric tests, non-parametric correlations (bivariate and partial) were performed using Kendall's Tau (τ). Statistical analysis was carried out using SPSS for windows version 11.5. Non-parametric partial correlations were calculated utilising the formula given by Clark-Carter (1997). Missing cases were excluded pairwise from the data set.

Results

The Sample

41 participants were referred to the study. Three of these did not meet study criteria (two denied hearing voices and one person reported hearing noises with no clear content.); two relapsed prior to interview. Of the 36 eligible, 6 (17%) declined to participate, leaving a final sample of 30.

22 participants were male (73.3%) and eight were female (26.7%). The mean age of the sample was 37.6 years (S.D.= 7.23; median 37.5; range 21-52). Four were in-patients, the remainder outpatients. All were in receipt of neuroleptic medication at the time of interview.

The sample as a whole obtained mean scores of 10.83 (SD= 4.62, range 0-21) and 7.60 (SD=3.85, range 0-21) on the HADS anxiety and depression subscales respectively. Seven participants (23%) fell into the 'moderate range' for depression, with no one in the 'severe' range. Eight participants fell into the 'moderate range' and eight into the 'severe' range for anxiety (53% were at least moderately anxious). The sample as a whole obtained a median score of 3.00 (range 0-4, Mean = 2.52, SD= 1.19) on the PSYRATS-AHRS, with 70% of participants reporting their voices to be at least 'moderately' distressing (Score of 2). Nine participants (30%) found their voices 'extremely distressing'; eight (26.7%) found their voices "very distressing".

Distribution of Variables

Descriptive statistics and normality tests for beliefs, affect and behaviours (table I) and voice characteristics (table II) are given below. As not all data were normally distributed medians are also reported.

Table I: Beliefs, Affect, and Behaviour Variables

Variable	Measures of Central Tendency			Kolmogorov-Smirnov Normality Test		
	Mean	Median	SD	Statistic	df	Sig.
Omnipotence **	10.5	10.00	4.57	.145	30	.109
Voice Power**	24.07	24.00	6.20	.104	30	.200(*)
Malevolence	11.3	14.00	6.15	.236	30	.000
Voice identity	74.92	90.00	29.20	.271	30	.000
Total SB**	19.47	18.00	14.56	.091	30	.200(*)
Benevolence	3.05	0.00	5.03	.283	30	.000
Total Threat	15.37	14.5	9.64	.179	30	.015
Depression**	7.60	8.00	3.847	.075	30	.200(*)
Anxiety**	10.83	11.5	4.62	.100	30	.200(*)
Intensity Distress	2.52	3.00	1.19	.198	30	.004

**Lower bound of the true significance. ** Normally distributed variable*

Outliers: One potential outlier was noted in total SB score. Examination of this case and comparison of the mean to 5% trimmed mean indicated that it was not clinically outstanding or exerting undue influence on the distribution. The case was therefore included in subsequent analyses.

Table II: Voice Variables

Variable	Measures of Central Tendency			Kolmogorov-Smirnov Normality Test		
	Mean	Median	SD	Statistic	df	Sig.
Amount Negative Content	2.72	3.00	1.279	.275	29	.000
Degree Negative Content	2.97	3.00	1.273	.277	30	.000
Voice Frequency	3.05	3.50	1.132	.299	30	.000
Voice Duration	2.43	2.00	1.073	.324	30	.000
Voice Loudness	2.25	2.00	0.935	.272	30	.000

Hypothesis Testing

Hypothesis 1. Prevalence of Threat perception and Safety Behaviour Use

I. Threat types.

All threat types (physical harm; social or shame threat and psychological threat were endorsed by participants and the full range of scores (0-10) utilised for all threat types. Qualitative examples are given in table V. The threat variables did not conform to a normal distribution and exhibited negative skew hence both means and medians are given in Table III.

Table III: Threat types: Descriptive statistics				
			Threat	
N=30	**Physical**	**Shame**	**Psychological**	**Total**
Mean	4.883	4.483	6.000	15.367
Median	5.000	4.500	7.000	14.500
Std. Deviation	4.0443	4.1740	3.8596	9.6364

A high prevalence of voice related threat was found. Examination of the cumulative frequencies revealed that 56.7 % of participants scored 5 or more on physical threat; 50% scored 5 or more on shame threat; 60% scored 7 or more on psychological and 50% scored 15 or more on total threat.

All combinations of threat were noted (Table IV) For example; persistent nagging from the voice that might lead to attrition, or loss of control (psychological threat) was sometimes linked to a fear of self-harm (physical threat). Some participants reported being worried about the voice revealing personal facts about them (shame threat), and that this might result in physical retribution from others.

Table IV: Threat types: Percentage Prevalence			
Threat type	**Percentage (%)**	**Threat type**	**Percentage (%)**
Physical	6.7% (n=2)	Physical and Psychological:	20% (n=6)
Shame:	6.7% (n=2)	Shame and Psychological:	10% (n=3)
Psychological	10% (n=3)	Physical and Shame	3.3% (n=1)
No threat:	3.3% (n=1)	Physical, Shame and Psychological	40 % (n=12)

II. Safety Behaviours Use

Twenty-six participants (86.7%) reported having used safety behaviours in the last month to mitigate against threat from voices. Qualitative examples are given in table V. Safety behaviour total scores (Total SB: total number of safety behaviours multiplied by frequency of use) had a mean of 19.47 (range 0-59) Examination of cumulative frequencies revealed that 50% of participants obtained a Total SBQ of 19 or more. (A score of 16 for example, might indicate 4 safety behaviours used every day or eight safety behaviours used less than five times a month). Percentage use of specific categories of safety behaviours is given in table VI.

In support of hypothesis 1, participants were therefore using safety behaviours to subjectively reduce a perceived threat from voices. Furthermore, when asked about the effectiveness of their safety behaviours in reducing threat, 91.3% of participants rated their behaviours as at least 5 out of 10 effective in reducing threat (Mean 7.28, median 7.00, SD = 2.22).

Four participants reported no safety behaviour use in the last month. Participant 1 previously believed his voices to be Nazi Scientists threatening to gas him, but now to be part of his illness; he previously complied with minor commands to appease the voices and fully complied by attempting suicide.

Table V: Clinical Examples of Safety Behaviour Use:			
	Meaning of Voices	**Threat**	**Safety Behaviours**
S17	People linked to the government who are using communication devices. Want to ruin his life and punish him because they think he raped somebody.	Poisoning; being shot at shops; kidnap him and commit sex acts; can control him making him jump in front of cars. (Physical) Want to put him down and send him back to hospital (shame and psychological)	Avoids Shops & only eats foods bought by family (avoidance); walks by different routes to confuse voices and tracking system; tells voices he's going to shops at one time and then goes at another; waits to cross road until it is completely clear in case voices make him jump in front of traffic (in-situation); Listens to music tapes to keep the voices happy and stop abuse (appeasement).
S20	Real people –purpose unclear but felt wanted to harm him. Believes they might be punishment from God.	Will tell others bad things (shame); will kill or beat him up (physical); prevent sleep and will drive him back to hospital (psychological)	Uses music to distract self; Checks locks following voice activity; holds AA batteries to throw in face of potential attacker (in-situation); Threatens voice (aggression); Left training placement early and suddenly because felt harm was coming (escape)
S27	Voices may be 'devils' and have caused murders locally.	Physical Threat: Being murdered	Avoids open spaces and tries to stay in crowds so he will be less visible; Travels by car to confuse voices- interferes with ability to find him; disguises appearance when out (e.g. hat pulled over face) (in situation)
S28	Voices are zombies from alternate dimension communicating through devices and luring people through "gates of death".	People are affected by energy from other dimension and made into zombies	Built metal device to trap energy slowly killing zombies. "Programming"- Taps on calculator alongside pictures of electrical pylons etc. to interfere with their energy system (in-situation)
S29	Witchcraft performed on her. Sensations of 'snake' in body linked to voice content about death	Daughter/ self will be physically harmed e.g. heart attack (palpitations linked to snake) or attacked.	Has attempted to confront persecutor to stop him (aggression) Wears talisman from priest for protection; Stays awake because they may kill her in her sleep (in-situation); Avoids going out.

Table V: Clinical Examples of Safety Behaviour Use: (Continued)			
	Meaning of Voices	**Threat**	**Safety Behaviours**
S7	"Spiritual mother" who conveys messages from God that she should die/ commit suicide as a messiah.	Threat of physical harm – either due to compliance or because God will take her life due to non-compliance	Asks family not to pray for salvation because this will increase likelihood of commands from God (help-seeking) Prays to God to ask for more time (appeasement)
S8	Believes voice is a nurse who used to live above him at his old home and hates him.	Psychological threat only – harassment.	Distracts self using walkman/cotton wool in ears (in-situation); Mentally gives address to encourage a visit so he can "sort them out" (previously placed threatening note under neighbours door but now under MHA section); Threatens and insults the voice to intimidate/ stop harassment (aggression)
S12	God whose instructions must follow and devil/wizards who are out to corrupt or control him..	Devil makes aware of faults /"incorrections" & may reveal this to others. Self and others will be harmed by God if "incorrect"	Fasts with no food or water for several days; performs washing in particular prolonged sequence until voices satisfied; Mentally corrects bad thoughts (compliance/appeasement); Contacts a "special person" to prevent harm (help-seeking)
S18	Voices due to telepathy caused by hypnosis – assumes other people can hear his thoughts as he can hear theirs.	Others may hear his bad thoughts about them or about things he's done (shame); worries that small children may be made telepathic by his thoughts (psychological threat)	Watches other people intently to see their reaction if he has had a bad thought; engages voices in a different topic of conversation (in-situation); apologise to voices for bad thoughts (current) or past deeds (appeasement); Avoids being close to small children

Participant 2 similarly now believed the voices to be his "inner psyche" but previously believed them to be a "God-like power" who would harm his family and so engaged in ritualised behaviours and appeasement behaviours (cutting hair and self harm). Participants 19 & 25 perceived no threat from the voices, as they were generally benevolent in nature e.g. spirit guides who protect and warn of threat from others.

Table VI: Categories of safety behaviours: Reported Use (Percentage participants) & Descriptive statistics

	Mean	Median	SD	Percentage	Number
Avoidance	6.8	5.5	6.0	76.6%	23
In-situation	6.1	4.0	7.6	70%	21
Escape	0.5	0.0	1.2	23.3%	7
Aggression	1.1	1.0	2.4	53.3%	16
Compliance	2.3	0.5	3.9	50%	15
Help-seeking	1.5	0.0	0.0	40%	12
Rescue factors	0.4	0.0	1.2	10%	3

Hypothesis 2(i): Voice omnipotence, Voice malevolence and perceived threat.

It was anticipated that omnipotence (ability to harm) and malevolence (intent to harm) would be positively associated with perceived threat therefore all tests were one-tailed (α= 0.05). This prediction was confirmed: Omnipotence of the voice (BAVQ-R) was significantly correlated with total threat (T=0.57 p<0.000), physical threat (T= 0.48 p<0.000), shame threat (T=0.49, p<0.000) and psychological threat (T= 0.58, p<0.000). Malevolence significantly correlated with total threat (T= 0.563 p<0.000), physical threat (T= 0.492 p<0.000), Shame threat (T= 0.37 p=0.005) and psychological threat (T= 0.50, p< 0.000).

Correcting for multiple comparisons (p=0.05) using Bonferroni's correction procedure yielded required significance levels of p=0.0125; hence all comparisons were still significant with this stricter criterion.

Hypothesis 2(ii): Safety behaviours and Beliefs about voices.

It was anticipated that increased safety behaviour use would be associated with increased beliefs about voice omnipotence, malevolence and total threat. All analyses were therefore conducted with one-tailed significance levels (α=0.05). These hypotheses were confirmed: Total Safety behaviour use (Total SB) was strongly associated with omnipotence (r=0.65, p<0.000), Voice power (r=0.31, p<0.05), malevolence (T = 0.40, p=0.02) and total threat (T = 0.56, p<0.000). Associations with omnipotence and threat remained significant when applying Bonferroni's correction procedure which yielded a required significance level of p=0.0125. The relationship to voice power was not maintained nor was the relationship between malevolence and Total SB.

In order to establish the independent influence of voice beliefs, voice characteristics were controlled for by calculation of partial correlations between Omnipotence and Total SB, and Malevolence and Total SB. All correlations were one-tailed (α=0.05). PSYRATS (AHRS) voice characteristic scores were examined for significant relationships with Total SB score. Voice characteristics, which showed the greatest significant correlations to SB total score, were in order: Degree Negative Content (T=0.495, P<0.01); Amount Negative content: (T=0.36, p<0.01); Voice Loudness: (T= 0.28 p<0.05).

The relationship between omnipotence and total SB score was still significant when controlling for: amount of negative content (T = 0.41 significance = p<0.001), degree of negative content (T = 0.35; significance = p< 0.005) and voice loudness (T = 0.45; significance = p<0.001). These relationships remained significant when utilising Bonferonnis' correction procedure (new sig. Level: p< 0.017). This demonstrates that the relationship between voice omnipotence and safety behaviour use is not accounted for by voice characteristics.

The relationship between Malevolence and Total SB remained significant when controlling for amount negative content (T = 0.25, p<0.025) and Voice Loudness (T = 0.34 significance = p<0.005), but not when controlling for degree of negative voice content (T = 0.16, non significant). Correction for multiple comparisons (significance level p<0.017) also reduced the partial correlation between malevolence and safety behaviours controlling for amount of negative content to a non-significant level. This suggests that the relationship between malevolence and safety behaviour use can be accounted for by how derogatory or threatening the voice is.

Hypothesis 3: Benevolence Beliefs.

It was anticipated that benevolence beliefs would be associated with lower Total SB scores. However, this hypothesis was not supported (T = - 0.06, p = 0.348). The relationship of benevolence to total threat (T= - 0.21, p=0.07) and intensity of distress (T= - 0.28, p=0.43) were also non-significant.

Regression Analysis

In order to establish the relative influence of voice beliefs and other variables on safety behaviour use the variables were entered into a hierarchical multiple regression analysis with Total SB score as the dependent variable. Hierarchical regression allows predictor variables to be entered on a theoretical basis. HADS total anxiety score was entered on step 2 given that this was related to safety behaviour use ($r = 0.326$, $p < 0.05$) and may act as a non-specific mood variable affecting behaviour (e.g. avoidance). The order of entry of the predictor variables chosen minimised the chance that voice beliefs would emerge as significant predictors. The results of the analysis are displayed in tables VI and VII.

Table VII: Hierarchical multiple regression analysis with Total SB score as the dependent variable

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Significant. F Change
1	.578(a)	.334	.284	12.321	.334	6.761	2	27	.004
2	.578(b)	.334	.258	12.549	.001	.028	1	26	.868
3	.605(c)	.366	.265	12.485	.032	1.264	1	25	.271
4	.719(d)	.517	.416	11.129	.150	7.464	1	24	.012

a Predictors:, Degree Negative Content, Voice Loudness
b Predictors: Degree Negative Content, Voice Loudness, Anxiety
c Predictors: Degree Negative Content, Voice Loudness, Anxiety, Malevolence
d Predictors: Degree Negative Content, Voice Loudness, Anxiety, Malevolence, Omnipotence
e Dependent Variable: Total SB

Overall, the model was significant $F(5,24) = 5.133$, $p = 0.02$. The adjusted R^2 value, which takes into account sample size, revealed that the model as a whole

accounts for 41.6% of the variance in Total SB. The only significant predictor of Total SB was a belief in voice omnipotence ($\beta = 0.53$). Even when first controlling for voice characteristics omnipotence produces a significant R^2 change ($F(1,24) = 7.5$, $p < 0.012$) and accounts for and additional 15 % of the variance in Total SB. These results strikingly suggest the importance of voice omnipotence beliefs in predicting behavioural consequences.

TableVIII: Multiple regression analysis Total SB as the dependent variable

Model	Variable	Unstandardized Coefficients		Standardized Coefficients	T	Significance
		B	Std. Error	β		
Step 1	Voice Loudness	3.904	2.601	.251	1.501	.145
	Degree Negative Content	5.059	1.912	.442	2.646	.013*
Step 2	Voice Loudness	3.799	2.721	.244	1.396	.174
	Degree Negative Content	4.909	2.141	.429	2.293	.030*
	Anxiety	.100	.593	.032	.168	.868
Step 3	Voice Loudness	3.483	2.722	.224	1.279	.213
	Degree Negative Content	3.094	2.673	.270	1.157	.258
	Anxiety	.029	.594	.009	.048	.962
	Malevolence	.599	.533	.253	1.124	.271
Step 4	Voice Loudness	2.845	2.438	.183	1.167	.255
	Degree Negative Content	2.411	2.396	.211	1.006	.324
	Anxiety	-.561	.572	-.178	-.982	.336
	Malevolence	.220	.495	.093	.445	.660
	Omnipotence	1.677	.614	.526	2.732	.012*

**Denotes significance level $p<0.05$.*

Hypothesis 4: Omnipotence, Safety Behaviours and Voice-Related Distress

It was predicted that voice omnipotence beliefs and safety behaviour use would be associated with increased intensity of voice-related distress (PSYRATS-

AHRS). As predicted, intensity of distress was correlated significantly with both Total SB (T=0.35, p=0.007) and omnipotence (T = 0.48, p<0.000). Voice characteristics that showed significant correlations with intensity of distress (Degree of negative content: T = 0.30, p=0.029; Voice duration: T = 0.45, p=0.002) were controlled for by use of one-tailed partial correlations using Kendall's Tau.

The association between Total SB and distress remained significant when the degree of negative content was controlled for (T = 0.25, p<0.025). Similarly, the association between omnipotence and distress remained significant when controlling for both degree of negative content (T = 0.40, p<0.001) and voice duration (T = 0.42, p<0.001). These results suggest that beliefs about voice omnipotence, and safety behavior use are associated with voice-related distress and that this is not accounted for by voice characteristics.

Is omnipotence simply a reflection of voice identity beliefs?

Given that certain voice identities e.g. God, are inherently powerful, beliefs about voice identity may be primary. Despite significant associations with Voice Power (T = 0.44, p=0.001) and omnipotence (T = 0.32, p=0.013) identity beliefs did not correlate with total SB (T = 0.16, p=0.123) or intensity of distress (T = 0.18, p=0.123). This suggests that voice omnipotence not identity beliefs are the crucial construct associated with affective and behavioural consequences of voice hearing.

The interaction between omnipotence, threat, safety behaviours and distress

In order to investigate further the role of safety behaviours in maintaining threat and beliefs about voice omnipotence, the associations between Total SB, Omnipotence, Total Threat and Intensity of Distress were explored.

Safety Behaviours and Distress

The correlation between Total SB and Distress ($T = 0.50$, $p<0.000$) was found to be non-significant once omnipotence was controlled for ($T = 0.196$, $p>0.05$) and when total threat was controlled for ($T = 0.198$, $p>0.05$). The relationship of safety behaviours to distress appears to be mediated by omnipotence and threat.

Omnipotence, Threat and Distress

The relationship between total threat and distress ($T = 0.36$, $p<0.007$) was rendered non-significant when omnipotence was controlled for ($T = 0.11$,$P>0.05$). However, the relationship between omnipotence and distress remained significant when total threat was controlled for ($T = 0.36$, $p<0.005$). The relationship of threat to distress appears to be mediated by omnipotence.

Omnipotence, Threat and Safety Behaviours

The relationship between omnipotence and Total SB ($T = 0.50$, $p<0.000$) remained significant even when controlling for total threat ($T = 0.26$, $p<0.025$). The relationship between total threat and total SB, whilst controlling for omnipotence, was also significant ($T = 0.39$, $p<0.001$). The relationship between omnipotence and threat ($T=0.57$, $p<0.000$) was significant once Total SB was

controlled (T =0.40, p<0.001). This suggests that safety behaviours show a positive association with both perceived threat and voice omnipotence, which cannot be explained by either variable alone.

Hypothesis 5: Safety Behaviours, Entrapment and Depression

It was hypothesised that greater omnipotence, greater voice power (VPD) and greater safety behaviour use would be associated with a greater degree of perceived entrapment by voices and increased depression.

Total SB was highly correlated to entrapment (r=0.64, p<0.000) but not to depression (r= - 0.20, p=0.14). Omnipotence was also highly correlated to entrapment (r=0.766, p<0.000). A partial correlation between Total SB and entrapment, controlling for omnipotence, was non-significant (r=0.26, p=0.103). This suggests that associations with voice omnipotence can account for the relationship between entrapment and safety behaviour use.

In contrast to previous research depression was not found to be associated with either omnipotence (r=0.16, p=0.201) or entrapment (r=0.23, p=0.12). As predicted, however, VPD was associated with depression (r=0.37, p=0.021). Applying Bonferonni's correction for multiple comparisons to depression (α=0.05, p<0.017) renders the correlation between voice power and depression non-significant (new significance level p<0.017). Bonferroni's correction procedure, however, may be conservative with small samples. The results suggest that voice power but not omnipotence shows an association with

depression. Furthermore, increased safety behaviour use appears to be associated with a greater sense of being trapped and unable to escape from the voice, but not with depression.

Discussion

The present study offers striking evidence of safety behaviour use in voice hearers. Subjectively, such behaviours are designed to prevent the occurrence of a perceived threat from voices and are believed by voice hearers to be effective in doing so. Beliefs about voice omnipotence, rather than voice characteristics, or mood (anxiety) appear to predict safety behaviour use. Omnipotence may be viewed as the ability of the voice to harm and is associated with perceived threat of physical harm, shame or psychological damage from voices. Voice omnipotence, rather than the voice's identity, or malevolence appears to be the crucial construct; malevolence beliefs (intent to harm) appears to be intimately linked to negative voice content as other authors have noted (e.g. Van der Gaag et al, 2003).

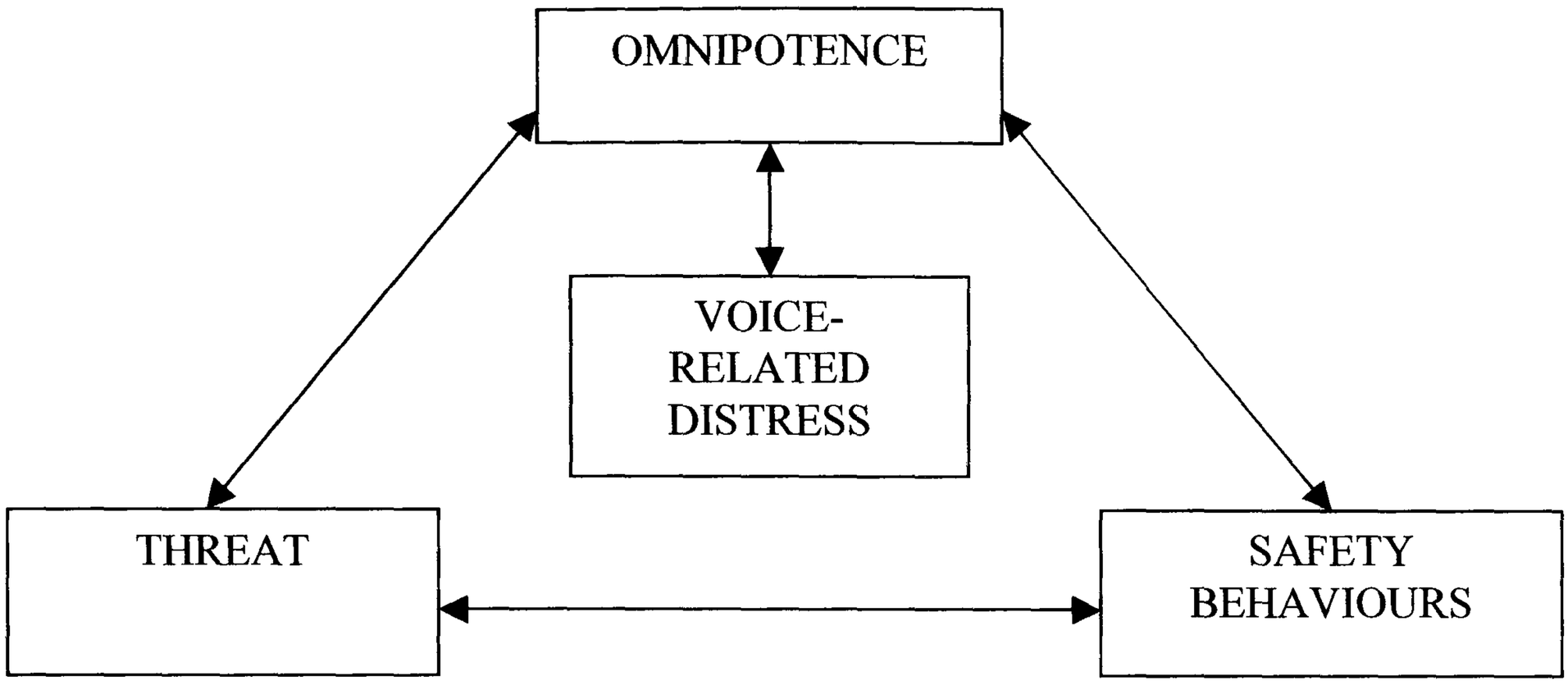
The present results are in agreement with Chadwick and Birchwood's (1994) cognitive model of voices in that they support the role of voice beliefs in determining voice related distress, and extend the model to include behavioural consequences. Indeed, effect sizes in the present study for associations between omnipotence and behaviour ($r=0.65$) compare favourably to previous studies examining the association with affective consequences (e.g. Birchwood et al, 2000; Gilbert et al, 2001).

The generalisability of the present study may, however, be limited by small the sample size. In particular, the regression analysis requires caution, as it uses the minimum ratio of cases to predictor variables recommended by Tabachnick and Fidell (1996) and voice characteristics were not normally distributed (both were negatively skewed). Nevertheless, the effect size is large (adjusted $R^2 = 0.416$) and post-hoc examination of data indicated that the analysis met the statistical assumptions of multivariate regression analysis. Furthermore the overall pattern of results was confirmed by non-parametric analysis.

The pattern of associations found between omnipotence, threat, distress and safety behaviour use (see figure 1) is consistent with a cognitive model of threat maintenance (Salkovskis, 1991) rather than behavioural models of avoidance and escape (Rachman, 1977). The cognitive account posits that distress is mediated via perceived threat; safety behaviours exert their effect by preventing disconfirmation of threat beliefs. The results suggest that safety behaviours are associated with both perceived threat and voice omnipotence directly, but that associations with distress are mediated by voice omnipotence.

This is consistent with the notion that safety behaviours may prevent disconfirmation of threat and maintain voice omnipotence. If, for example, the person appeases the voice to prevent harm occurring, they may fail to learn that the threat would not occur and therefore that the voice was not as powerful as believed. Unfortunately, the present correlational study does not allow causal relationships to be examined. The model might be further tested by outcome studies, which specifically target safety behaviours whilst monitoring belief and affect change.

Figure 1: *Associations between omnipotence, threat, distress and safety behaviour use (arrows indicate significant partial correlations)*



The present study draws heavily from cognitive models of neurosis. However, in anxiety disorders (Wells, 1997), anxiety symptoms are intimately linked to perceived threat: the link between heart palpitations and threat of having a heart attack in panic is an obvious example. Attempts to reduce threat may therefore be intimately linked to attempts to reduce anxiety in a way, which may not apply in psychosis. In voice hearers the source of threat is interpersonal i.e. harmful persecution from a powerful other.

A further finding was that increased safety behaviour use was associated with an increased sense of entrapment by voices. Again, however, this relationship appeared to be mediated by omnipotence suggesting that it may be via maintenance of omnipotence that safety behaviours maintain entrapment. No support was found for the prediction that safety behaviour use and entrapment would be associated with depression: in fact, safety behaviours showed a negative but non-significant correlation with depression. It could be speculated

that safety behaviours represent a form of short-term coping, which mitigate against depression, however there is insufficient data at present to support this.

Depression was associated with voice power (VPD), which is in line with previous studies (e.g. Birchwood et al, 2000; Gilbert et al, 2001) but there was no association with omnipotence, in contrast to Chadwick et al's (2000) findings. It may be a mistake to assume that these "power" measures are interchangeable. The Voice Power Scale involves a social comparison judgement where the voice is rated relative to the self (Birchwood et al 2000) and may tap into evaluative beliefs about the self, which would be linked to negative affect (Trower, 2003). The omnipotence scale (Chadwick et al 2000), however, involves inferences about the voice's abilities, without social comparison, which show greater relationships to safety behaviour use. Further comparison of measures of voice power is warranted.

A limitation of the current study is its ability to explain acting on benevolent voices. Negative associations between benevolence, safety behaviours and affect were found but were non-significant. The current sample, however, is predominantly of people who hear malevolent voices, which is not uncommon in samples drawn from mental health services (Close and Garety, 1998). The relationship of behaviour to power beliefs may be qualitatively different in benevolent voices. For example, participant 25 appeared to use safety behaviours to prevent persecution from her neighbours, in response to protective warnings from her knowledgeable "spirit guides". Safety behaviours other than

those related to threats from voices themselves were not the focus of the current study.

It could be that the current sample overestimates the extent of safety behaviour use due to the predominance of malevolent voices. Against this notion, however, a number of participants indicated that they previously used safety behaviours at a greater level than indicated in the previous month and that this had been when they had been "more ill" and were more convinced about the voice's identity and power. Monitoring the course of behaviours and beliefs over time may prove useful in clarifying how they are maintained or changed. Furthermore, of those who refused to participate many were suspicious or too unwell and it is precisely these people who would be expected to exhibit more of these behaviours e.g. avoidance.

The current findings have a number of important implications. Firstly, the importance of beliefs in determining how people act on their voices suggests that the inclusion of such phenomenological factors in risk and challenging behaviour assessment may prove to be a useful addition. Secondly the inclusion of safety behaviours in treatment models may aid the amelioration of voice-related distress via belief change. Preliminary outcome studies suggest that targeting key voice beliefs such as omnipotence can have an impact on distress and compliance (Trower et al, 2004) and there is some evidence that verbal challenging and behavioural experiments may have additive effects (e.g. Chadwick et al, 1994). Indeed, contemporary cognitive models such as Teasdale's Interacting Cognitive Subsystems model (ICS: Teasdale, 1997b) view behavioural experiments as a

potentially more effective means of effecting belief change since they impact on a "felt-sense" level ('implicational code') instead of a purely intellectual level ('propositonal code'). The inclusion of safety behaviours in the assessment of voice hearing would enhance clinical formulation and allow more targeted and effective behavioural experiments. Behavioural experiments are unlikely to be successful if non-occurrence of events is attributed to subtle safety behaviours, in which the voice hearer continues to engage.

The current study also sought to elucidate the way in which voice omnipotence is associated with threat. In line with the work of Morrison (1998) and Chadwick and Birchwood (1994) it was found that threats of physical harm, shame and psychological threat were common. A development of a standardised tool to assess threat would be a useful addition. Clinically it may be important to assess the type of threat belief present. For example, many CBT approaches include distraction techniques, which may be useful in challenging the reality, and power of the voice by controlling voice offset (Byrne et al, 2003). In the case of psychological threat and fear of loss of control, however, distraction techniques, as in panic, may themselves act as safety behaviours.

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CHAPTER IV: Reflective Review

Chapter word count: 2990 (Excluding References)

Abstract

The present review reflects upon the process of conducting doctoral research with clients with a diagnosis of schizophrenia. A number of ethical issues are discussed. Methodological limitations and practical issues concerning clinical interviewing and the use of structured assessment tools are also considered. Included are implications for clinical work with people with psychosis and future research in this field. Finally, the review offers some personal reflections on the research process and the role of the scientist-practitioner.

Reflective review

Introduction

The idea for the present research originated in my work as an assistant psychologist. During this time I had been struck by two observations. First, that risk assessment tools often enquired only about the presence or absence of voices and thereby failed to capture the idiosyncratic way in which voices were associated with risk behaviours. This implied that elimination of voices, unrealistic in many cases, was required to escape the "system". Secondly I worked with clients who reported acting under the influence of voices (e.g. aggression, or fear of going out), in a way, which had subjective logic, yet objectively appeared bizarre or detrimental to them. In contrast to studies of beliefs and emotions, however, I discovered that there was a dearth of literature on voice-related behaviours. The present review examines the path I took in exploring this area: a path, which was fraught with pitfalls and anxieties and yet was ultimately both fascinating and rewarding.

Ethical Issues

I was adamant that my research would involve a "true" clinical population to equip me for my future career but I had little awareness of the difficulties involved. Obtaining ethical approval emerged as one of the greatest problems for mainly bureaucratic reasons. Having applied to the Multi-Region Ethical Committee (MREC) I discovered that "local" approval was also required. For a single large NHS Trust this therefore involved no less than five ethical

applications. The process was both frustrating and hugely disempowering; my initial enthusiasm gave way to a great deal of anxiety that the research might never happen. The reality of research in a clinical setting with huge time constraints had dawned.

I did find ethical review useful in considering consent issues and the potential impact on clients. Despite this, some problems were not foreseen: the required MREC participant information sheet had so much information required so as to make it unwieldy for many clients with schizophrenia. Furthermore, the recommendation that referrers should obtain consent from participants proved unhelpful: most participants exhibited persecutory ideation and, perhaps unsurprisingly, requested to meet me to ascertain whether they could trust me and then give consent. This clearly highlighted from the outset the importance of the interpersonal relationship, even for the purposes of research.

Given that voice hearers generally view themselves as lower in 'social rank' (Birchwood et al, 2000), one of the great ethical dangers is unwilling compliance with the researcher's requests and questions. Conversely, I was aware from previous experience that clients may be guarded about discussing voices, due to fear of the voices themselves or the "powerful" mental health "system" which has previously labelled them 'ill' and hospitalised them. I felt that I needed to strike a balance between appearing powerful enough to allow the client to overcome their fears of the voices, whilst not myself appearing controlling or judgemental. I was beginning to realise at the early stages just how important my clinical skills were going to be if I were to get through what seemed a monumental task.

Having an awareness of the broader clinical literature was invaluable for conducting the research interviews effectively yet ethically. Chadwick, Birchwood and Trower (1996) recommend that clients be given a "panic button" at the outset of therapy to prevent them feeling controlled. Similarly I found that telling participants that they could leave the session without reason at any time, and that there would be no consequences to this, led clients to be more relaxed and open about their experiences.

Chadwick et al (1996) also suggest that the therapist should present themselves as knowledgeable about voices (therefore powerful) and should normalise the ideas and experiences that are common in voice hearers (e.g. seeing voices as 'all-knowing'). This was, however, not appropriate for research purposes since I felt it might bias participants' responses. I compromised by emphasising my experience of working with voice hearers, hopefully reducing the fear of shame and negative judgement, whilst "up-ranking" myself relative to the voice. I also stressed that the interview did not aim to hospitalise the participant, whilst acknowledging the real limits of confidentiality.

To avoid invalidating the uniqueness of the individual's experience, maintaining a sense of curiosity and "suspending disbelief" was essential (Nelson, 1997). It was, however difficult to remain non-challenging whilst not confirming delusions. Avoiding inadvertent collusion with delusional beliefs was crucial: a client I worked with previously believed that a video recording, made for the purpose of University teaching to portray someone with delusional beliefs, was being exhibited as proof of his belief that he could transform into Jesus. I tried to

emphasise my desire to understand the individual meaning of the experiences without agreeing or disagreeing. The actual impact on participants was, however, difficult to assess.

Whilst ethical review stipulated that participants be clearly informed that the research did not involve treatment, in reality the boundary between assessment and intervention is not clear. Indeed, a systemic perspective would suggest that the process of asking questions is itself an intervention (Dallos & Draper, 2000), particularly where theoretical constructs (e.g. power) are imposed on the interview. Due to the uncertain nature of the impact on client beliefs, where participants gave consent, information was passed to teams for follow-up support.

Ethical considerations about distress to clients were paramount. No participants interviewed, however, reported being distressed and many found it helpful to talk without being challenged or discredited. It surprised me that participants who had been under psychiatric care for years had rarely been offered such an opportunity. Nonetheless, the experience can be distressing; one person declined the interview, having been distressed by prior research. Furthermore, clients may not be fully aware of the nature or dangers of participation. One person referred, began to disclose sexual abuse details, which raised my own anxieties significantly as research and clinical roles began to clash; as a clinician I neither wanted to allow the client to disclose with no follow-up support or to leave him feeling rejected. Ultimately it was necessary to refuse to interview him, to discuss the reasons with him and gain consent to contact his Key worker for follow up.

Recruitment

Freeman and Garety (1999) note that clients with persecutory delusions are difficult to recruit; I found recruitment to be the most anxiety provoking and disheartening aspect of the research. The client group is, by definition guarded and some participants denied hearing voices despite evidence to the contrary. Relapse and disengagement from services is also common and some people referred were lost as a result of these factors. Such recruitment difficulties are doubly problematic since the complexity of clinical presentations requires control for multiple variables and ideally a large sample size.

Some recruitment problems were more staff-centred. Many staff were unsure about their client's symptoms (e.g. whether they heard voices) and it appeared that teams lacked specialist cognitive therapy assessment skills, which are still poorly disseminated. A further hindrance was the relatively prevalent view that clients would be made worse by talking about their voices. As a result most referrals I obtained were from teams who knew me personally and felt they could entrust their clients to me. It was not uncommon to be promised referrals but for these not to materialise or for time taken presenting the research to teams to be wasted, leaving me feeling let down and angry. The reality that my research was a priority only to me and came second to heavy clinical caseloads was an isolating and lonely experience. Recruitment problems and the lack of certainty did not sit easily with my need for control.

A further problem was staff preconceptions of what a research participant should be like. Many teams stated that clients would be unwilling to talk or had no "insight". Often, such concerns were not borne out, approached empathically many such clients did discuss their experiences and a lack of insight was somewhat of a prerequisite for looking at the delusions-behaviour link. Interestingly, if staff perceptions of psychosis research are that it is based on a 'select few' clients, rather than those with complex and challenging presentations, they may view research findings as less applicable to their own clinical work. Emphasising the clinical relevance of the research to referrers is something to be learned for future research endeavours.

Methodological critique

Interviews and Measures

The use of assessment tools in psychosis is not straightforward. One problem is the measures' use of the term 'voices' which many voice hearers do not use to describe their experiences. My experience with psychosis was essential to engage participants: paying close attention to the client's terms and avoiding subtle errors in phraseology, which communicate to the client that they are not being understood or believed, was crucial. It was, for example, necessary to avoid terms such as "*think*" and instead ask: "when did you *know* that this was happening?"

Importantly, I found that there was a trade-off between obtaining valid results, which accurately reflect the client's experience, and ensuring reliability through strict adherence to protocol. A comprehensive assessment is essential and the use of the Cognitive Assessment of Voices Schedule (Chadwick and Birchwood,

1994) was useful in gathering idiosyncratic data (e.g. the identity of voices), allowing more accurate targeting of subsequent measures and hence increased validity.

It would be easy to believe that voice hearers report their experiences in the way they are reported in studies but this is often not the case. A familiarity with the client group and cognitive therapy was essential. My initial, unrealistic expectation was that interviews would run smoothly from the outset, which led to some initial panic when they didn't. In reality conducting the interviews in itself was a quite a learning curve for me. For example, participants occasionally identified safety behaviours before threat so that quite flexible administration of The Safety Behaviour Questionnaire (SBQ; Freeman et al 2001), using CBT skills, was required to elicit threat beliefs. Furthermore, it was necessary to be constantly aware of the potential for compliance or misunderstanding and to recursively check the validity of the answers given e.g. participants occasionally reported behaviours designed to reduce real threats unrelated to voices. Some flexibility ensures the validity of the reports but deviation from the standard protocol has implications for reliability.

As noted in the brief paper the SBQ requires further development as it is biased towards 'avoidance' by providing yes/no forced choice options, which appeared to encourage acquiescence. This was also a problem in that examples of safety behaviours are given as descriptors of SBQ categories and participants who are eager to please may report using such examples yet hold little conviction in their responses. Careful monitoring of acquiescence to ensure validity was essential. The notion that the use of standard questionnaires or interviews for research or

clinical work could be carried out in a valid way by people with little or no clinical training now seems quite naïve to me.

An awareness of the cognitive deficits common in this client group (e.g. attention/concentration) was useful practically and in increasing the validity of the findings. Some clients struggled with multi-choice questionnaires such as the Voice Power Scale (Birchwood et al 2000). Hence information reduction techniques that are common in Cognitive Remediation Therapy (Wykes, 2000) were employed. For example, participants might be presented with a choice of whether the voice was more or less powerful than themselves and then the half of the options relating to their choice (i.e. how much more or less powerful) were presented.

In designing the present study I also discovered that a variety of measures are used across existing studies and the relationship between them is quite unclear. The importance of this is highlighted by the present research. For example, it appeared that voice 'omnipotence' (Chadwick et al 2000) and voice 'power' as measured by the Power Scale (Birchwood et al 2000) may be somewhat different constructs. Furthermore, preliminary examination of the data similarly suggested that the PSYRATS (Haddock et al 1999) "distress" measure, which related strongly to omnipotence, is not the same as the affect component of 'resistance' (Chadwick et al, 2000). 'Resistance' includes a diverse range of negative feelings (e.g. anger, depression, fear etc.) and was originally designed to examine the valence of the affect in relation to malevolence and benevolence beliefs. Clinically, my experience has been that these measures are often used interchangeably without a thorough awareness of what they truly measure.

Initially the realisation that much research and its clinical applications are not theoretically clear came as both a shock and disappointment to me. Conversely my increased awareness of my ability to analyse research in this depth came as a boost to my confidence and has highlighted to me the importance of being both a "scientist" and a "practitioner".

The Scientist Practitioner:

A further disappointment of delving deeply into a research area for the first time was that much research underpinning clinical work is less than convincing. For example, many CBT for psychosis outcome trials utilise the Psychiatric Symptom Rating Scale (Haddock et al, 1999) as an outcome measures yet the test-retest reliability of this tool has yet to be evaluated, affecting internal validity. Also the current emphasis on randomised control trials raises issues since often they do not provide clinically useful information such as which aspects of intervention are efficacious and for whom (Turkington et al 2003). Conversely, I was surprised that some standard clinical interventions e.g. safety behaviour use in social phobia (Wells et al, 1995) are based only on small n-designs or case studies.

I now see that it is important not to take research findings at face value and that consequently research skills are as important for the clinician as the academically inclined. The lack of rigour of much research was somewhat disillusioning given how strongly clinical psychologists view themselves as scientists. Now however, I realise that such rigour is not easily achieved and is something to be aspired to through constant refinement. For someone who was initially uncertain of their

academic abilities it has led to a more realistic sense of my own skills and ability to make a valuable, albeit imperfect, contribution to clinical research.

I have also learned that an awareness of current research makes for more targeted clinical assessments and interventions. Most interestingly, in contrast to my initial impression of research as a sterile, protocol driven procedure far removed from clinical skill, I found that my clinical skills were crucial for interviewing effectively clients whose presentations are often more complex than theory would have one believe.

Future Research:

Strikingly the research made me even more aware of the importance of a focus on the individual in that voice relationships reflect more general emotional and interpersonal themes. The notion that themes run throughout relationships including voices is consistent with object relations theory (Lemmas, 2003) and Cognitive Analytic Therapy (Ryle & Kerr, 2002). Both, conceptualise relationships in the present being interpreted in terms of key 'object relations' or 'reciprocal roles' based on early experience. An interesting area of future research would be to examine the idiosyncratic constructs applied to voices and whether these mirror early experiences with primary care givers as psychodynamic concepts might anticipate. The use of repertory grids, for example, would provide a way of doing this without imposing pre-existing theoretical constructs.

A further area for research would be the association between beliefs about voices, and challenging behaviour in psychosis. Generally, literature on

challenging behaviour in psychosis is lacking. However, the learning disabilities literature (e.g. Emmerson, 2001) focuses on an understanding of the function of behaviour and adopts a constructivist approach. The present research indicates a strong role for a phenomenological understanding of function in at least some challenging behaviours in psychosis.

Personal Reflections:

Through the difficulties of the present research I have gained much in terms of clinical skills and knowledge about psychosis. In addition, I now have a more critical eye for reviewing the empirical evidence for clinical models and interventions. Whilst I initially viewed doctoral research with great trepidation, my confidence in my skills has grown substantially. The process, however, has not been an easy one and has highlighted just how important reliable and enthusiastic supervision is, alongside personal support when things get difficult and catastrophising sets in. Indeed, one of the greatest learning experiences has been that things rarely go according to plan and that's okay. I now realise that research, like therapy, is an evolving process, which cannot be fully controlled. In moving from proposal to data collection to literature review ideas and hypotheses will change, perhaps radically along the way as skills and understanding grow. A need for certainty can make an exciting and interesting endeavour become one filled with anxiety and fear of failure. Only now, in light of significant results, am I able to recall with amusement my panic when the first two interviews generated data nothing like I expected.

I probably learned as much from the research about myself as I did about voices: my need for certainty and control were my greatest driving force and often my greatest enemy. Research, therapy, and perhaps life however offer no clear path and no certainties. In the end I have learnt that to find the answers one must ultimately become comfortable with "not-knowing": an ironic end to a search for knowledge

"Discard your memory; discard the future tense of your desire; forget them both, what you knew and what you want, to leave space for a new idea. A thought, an idea unclaimed, may be floating around the room searching for a home".

(Bion, 1980)

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APPENDICES

Appendix A: Ethical approval

Multi-centre Research Ethics Committee for Scotland Approval
Coventry University Ethical Approval

Multi-Centre Research Ethics
Committee for Scotland

Secretariat
Deaconess House
148 Pleasance
Edinburgh
EH8 9RS
Telephone 0131 536 9026
Fax 0131 536 9346
www.corec.org.uk

NHS
SCOTLAND

Mr David Hacker
Trainee Clinical Psychologist
52 Thornley Grove
Minworth
Sutton Coldfield
West Midlands
B76 8RH

Date: 10 June 2003
Your Ref.:
Our Ref.: MREC/03/10/19

Enquiries to: Chris Graham
Extension: 89027
Direct Line: 0131 536 9027
Email: chris.graham@lhb.scot.nhs.uk

Dear Mr Hacker

MREC/03/10/19: An investigation into the use of safety behaviours by voice hearers and the maintenance of emotional distress

The members of the Multi-Centre Research Ethics Committee for Scotland delegated to lead the review of this application have considered the changes submitted in response to the Committee's earlier review of your application on 13th March 2003 as set out in our letter dated 27th May 2003. The documents considered were as follows:

- Response Letter (Email) - dated 29th May 2003
- Consent form for Audio Recording - Version 3: 29/05/03
- Questionnaire Cover Note: a statement to the effect that the participant may decline to answer any question in the questionnaires without giving a reason – Version 1: May 2003*

* version number and date given by MREC for Scotland

The 'lead reviewers', acting under delegated authority, are satisfied that these accord with the decision of the Committee and have agreed that there is no objection on ethical grounds to the proposed study. I am, therefore, happy to give you the favourable opinion of the Committee on the understanding that you will follow the conditions of approval set out below. A full record of the review undertaken by the Committee is contained in the attached MREC Response Form. The project must be started within three years of the date of this letter.

NHS
SCOTLAND

Conditions of Approval

- You do not recruit any research subject within a research site unless favourable opinion has been obtained from the relevant local research ethics committees.

- You do not undertake this research in an NHS organisation until the relevant NHS management approval has been obtained as set out in the Framework for Research Governance for Health and Community Care (Research Governance for Health and Social Care in England).

- You do not deviate from, or make changes to, the protocol without prior written approval of the Committee, except where this is necessary to eliminate immediate hazards to research participants or when the change involves only logistical or administrative aspects of the research. In such cases the Committee should be informed within seven days of the implementation of the change.

- You complete and return the standard progress report form to the Committee one-year from the date of this letter and thereafter on an annual basis. This form should also be used to notify the Committee when your research is completed. In this case the form should be sent to the Committee within three months of completion of the research.

- You must complete and return the standard progress report form to the Committee one year from the date on this letter and thereafter on an annual basis. This form should also be used to notify the Committee when your research is completed.

- If you decide to terminate this research prematurely you must send a report to the Committee within 15 days, indicating the reason for the early termination.

- You advise the Committee of any unusual or unexpected results that raise questions about the safety of the research.

NHS
SCOTLAND

Local Sites

Whilst the Committee would like as much information as possible about local sites at the time you apply for ethical approval it is understood that this is not always possible. You are asked, however, to send details of local sites as soon as a researcher has been recruited. This is essential to enable the MREC to monitor the research it approves.

ICH GCP Compliance

The Committee is fully compliant with the International Conference on Harmonisation/Good Clinical Practice (ICH GCP) Guidelines for the Conduct of Trials Involving the Participation of Human Subjects as they relate to the responsibilities, composition, function, operations and records of an Independent Ethics Committee/Independent Review Board. To this end it undertakes to adhere as far as is consistent with its Constitution, to the relevant clauses of the ICH Harmonised Tripartite Guideline for Good Clinical Practice, adopted by the Commission of the European Union on 17 January 1997. The Standing Orders and a Statement of Compliance were included on the computer disk containing the guidelines and application form and are available on request or on the Internet at www.corec.org.uk

Yours sincerely

C. Graham

CHRIS GRAHAM
MREC Administrator

Multi-Centre Research Ethics
Committee for Scotland

NHS
SCOTLAND

RESPONSE FORM

DETAILS OF APPLICANT:

1. **Name and address of Principal Researcher:**

Mr David Hacker
Trainee Clinical Psychologist
52 Thornley Grove
Minworth
Sutton Coldfield
West Midlands
B76 8RH

2. **Title of project:**

An investigation into the use of safety behaviours by voice hearers and the maintenance of emotional distress

3. **Name and address of Sponsor:**

N/A

DETAILS OF MREC:

4. **MREC for Scotland**
Deaconess House
148 Pleasance
Edinburgh
EH8 9RS

5. **MREC Reference Number:** MREC/03/10/19

6. **Listed below is a complete record of the review undertaken by the Committee with the decisions made, dates of decisions and the requirements at each stage of the review:**

Date of review: 13 March 2003

Committee members in attendance:

Dr K Beard (Consultant Physician)
Professor C Bond (Consultant in Pharmaceutical Public Health)
Dr M Booth (Consultant Anaesthetist)
Ms F Campbell Statistician)
Mr A C Fraser (Lay)
Dr B Holland (Consultant Paediatrician)
Dr I McKee (General Practitioner)
Mrs H Millar (Lay)
Mrs J Munro (Allied Health Professions)
Dr R Pearsall (General Practitioner)
Mrs F Phab (Statistician)
Dr J Robins (Consultant Obstetrician/Gynaecologist)
Mr P Rogers (Consultant Surgeon)(in the Chair)
Mr I Smith (Lay)

Outcome of review: Approved Subject to Changes

Documents reviewed:

MREC application dated 14 February 2003
Protocol: version 1 dated February 2003*
Participant information sheet: version 1 dated 07/02/03
Consent form: version 1 dated 07/02/03
Consent form for audio recording: version 1 dated 07/02/03
Cognitive assessment of voices
Auditory hallucination rating scale dated 1994 (University of Manchester)
Safety behaviour questionnaire
Hospital anxiety and depression scale
The entrapment subscale of the E-scale
Power scale (voices)
Research marking sheet
Curriculum Vitae

Changes/Information requested:

1. Clarify how the keyworkers identify and select potential participants.
2. Justify the limited inclusion criteria and clarify how the diagnosed symptoms would be defined.
3. Justify the exclusion of potential participants with negative symptoms.
4. Clarify the inclusion/exclusion position of potential participants with alcohol/drugs related problems.
5. Clarify the age range for inclusion in the study and explain why it was chosen.
6. Provide details of the researcher's experience with working with people who have heard voices.
7. Clarify the apparent inconsistency in the answer to Q 21 of the application form where a good working knowledge of English was required but there was also a desire to include potential participants from the ethnic minorities.
8. Given consent was to be based on intellectual capacity clarify why the approach to obtaining consent was based on learning difficulties patterns.
9. Justify why consent could not be obtained before the participant meets the researcher, possibly via the keyworker.
10. Justify the assurance given on confidentiality but allowing the researcher the option to divulge information without permission.
11. Clarify whether participants would complete all the questionnaires.
12. Give an assurance that:
    1. participants would see a transcript of the audio-recording to approve
    2. the audio-tape would be wiped after transcription (and say when)
    3. the audio-recording would not be used/played at presentations.
13. Clarify the arrangements for ensuring that the keyworker was available if the participant became distressed.
14. Clarify what was meant by 'team-base'.
15. The payment of £5 should be paid for expenses actually incurred.
16. Clarify the apparent inconsistency between the consent form for audio-recording which mentions that the researcher would decide whether or not to erase the tape; and the answer to Q34 of the application form which states that all recordings would be destroyed.
17. The participant information sheet should:
    1. be more invitational rather than asking potential participants to participate
    2. mention what would happen to the data collected if the participant withdrew from the study
    3. amend the sub-section heading "Why have I been chosen?" to "Why have I been invited?"
    4. explain that the participant could decline to participate without giving a reason
    5. avoid the impression of telling the participant how they might be 'hearing'
    6. mention that the participant could decline to answer any question in the questionnaire without giving a reason (a point which should be stressed at the commencement of the questionnaire)
    7. refer to the MREC for Scotland not the West Midlands MREC.

Date of review: 17 April 2003

Documents reviewed by Lead Reviewers:

Response Letter – dated 14th April 2003
Amended MREC Application Form – February 1998
MREC application dated 11 April 2003
Protocol: version 1 dated February 2003
Participant information sheet: version 2 dated 07/04/03
Consent form: version 1 dated 07/02/03
Consent form for audio recording: version 2 dated 07/04/03
Cognitive assessment of voices
Safety behaviour questionnaire
Hospital anxiety and depression scale
The entrapment subscale of the E-scale
Power scale (voices)
Research marking sheet
Curriculum Vitae

Changes/Information requested:

12. Give an assurance that:
    1. participants would see a transcript of the audio-recording to approve
    1. the audio-tape would be wiped after transcription (and say when)
    2. the audio-recording would not be used/played at presentations.

    It is stated in the amended answer to Q.34 of the Application form that at no point will the audio recording be used for the purposes of teaching or used/played and presentations, and participants will be informed of this fact .....participants will be informed of all these arrangements (please refer to consent form for audio recording). However the amended Consent Form for Audio Recording Version 2, 7th April 2003 does not contain this statement.

17. The participant information sheet should:
    6. mention that the participant could decline to answer any question in the questionnaire without giving a reason (a point which should be stressed at the commencement of the questionnaire)

The Lead Reviewers felt it important with this group of patients that the opening preambles of the Questionnaire should have added to them a statement to the effect that the participant may decline to answer any question in the questionnaires without giving a reason.

Date of review: 29 May 2003

Documents reviewed by Lead Reviewers:

Response Letter (Email) - dated 29th May 2003
Consent form for Audio Recording - Version 3: 29/05/03
Questionnaire Cover Note: a statement to the effect that the participant may decline to answer any question in the questionnaires without giving a reason – Version 1: May 2003*

* version number and date given by MREC for Scotland

Date approved by Lead Reviewers: 10 June 2003

7. FINAL DOCUMENTS AND ARRANGEMENTS APPROVED BY THE MREC

The following items have been approved by the Multi-Centre Research Ethics Committee for Scotland:

MREC application dated 11 April 2003
Protocol: version 1 dated February 2003
Beliefs about Voices Questionnaire – revised (BAVQ-R)
Appraisal of Threat Questionnaire
Participant information sheet: version 2 dated 07/04/03
Consent form: version 1 dated 07/02/03
Consent form for Audio Recording - Version 3: 29/05/03
Cognitive assessment of voices
Safety behaviour questionnaire
Questionnaire Cover Note: a statement to the effect that the participant may decline to answer any question in the questionnaires without giving a reason – Version 1: May 2003*
Hospital anxiety and depression scale
The entrapment subscale of the E-scale
Power scale (voices)
Research marking sheet
Methods of initial recruitment to study
Compensation arrangements for subjects
Payments to researcher
Provision of expenses for subjects

C. Graham

CHRIS GRAHAM
MREC Administrator
Multi-Centre Research Ethics Committee for Scotland
Date: 25 June 2003

COVENTRY UNIVERSITY - SCHOOL OF HEALTH AND SOCIAL SCIENCES

STUDENT SUBMISSION TO SCHOOL RESEARCH ETHICS COMMITTEE

1. Student's name: David Hacker — Clinical Psychology Doctorate

(BLOCK CAPITAL

3. Title: An investigation into the use of safety behaviours by voice hearers and the maintenance of emotional distress

4. **Subjects**

People aged 18-65 with a diagnosis of schizophrenia who are currently hearing voices (in the last month)

Based at Universities of Coventry and Warwick. Participants will be sampled from Birmingham and Solihull Mental Health NHS Trust, South Warwickshire PCT, Leceister Partnership NHS Trust and C

Design (eg experimental):

Semi-structured inteviews : Cognitive Assessment of Voices
Safety Behaviour Questionnaire

Questionnaires: e.g. Beliefs About Voices Questionnaire

Access arrangements (if applicable): Via community mental health teams and NHS Trusts (see above)

5.	Will the project involve patients(clients) and/or patient(client) data?	Yes [✓]	No [ ]
6.	Will any invasive procedures be employed in the research?	Yes [ ]	No [✓]
7.	Is there a risk of physical discomfort to those taking part?	Yes [ ]	No [✓]
8.	Is there a risk of psychological distress to those taking part?	Yes [ ]	No [✓]
9.	Will specific individuals or institutions (other than the University) be identifiable through data published or otherwise made available?	Yes [ ]	No [✓]
10.	Is it intended to seek informed consent from each participant (or from his or her parent or guardian)?	Yes [✓]	No [ ]

Student's signature: ..... Supervisor's signature: ..... Date: 24/6/03

FOR COMMITTEE USE

Immediate approval	[✓]	Referral to full School Committee	[ ]
Referral to local Hospital Ethics Committee	[ ]	Decision pending receipt of further information (specify below)	[ ]

Committee Member's signature: David Giles Date: 20/06/03

Appendix B: Participant Information Sheet

The Universities of Coventry and Warwick

Investigating people's experiences of hearing voices:

What they feel about it and what they do about it.

AN INFORMATION LEAFLET FOR CLIENTS

Version 2 – 07/04/03

If you would like more information please contact:
David Hacker (Trainee Clinical Psychologist) or Dr Jeremy Tudway (Consultant Clinical Psychologist) at Coventry University on 024 7688 8328

INTRODUCTION

You are being invited *to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the information below carefully and discuss it with others if you wish, perhaps your family or Keyworker. If anything is unclear or you would like more information please ask us. Take time to decide whether or not you wish to take part.*

What is the purpose of the study?

For a number of years psychologists have been trying to understand what it's like to hear voices. We've found that some people enjoy hearing their voices whilst others can be upset, afraid or quite sad because of the voices. We also know that people understand their voices in many different ways. The purpose of this study is to try to understand better how voices can make people feel and the sorts of actions people take or things people do or have stopped doing because of their voices. Sometimes people can get stuck either being unable to do what they want to, or having to do things they don't want to, because of the voices. We'd like to try to understand how sometimes what people do themselves because of their voices can lead them to be more upset in the longer term.

Why have I been invited?

We have been trying to find people living in the area who have heard voices and are receiving care from mental health services. Your doctor or Keyworker felt that this was the case for

you and suggested that we approach you to invite you take part. We will be talking to as many as 40 people who hear voices, during the study, from all around the West Midlands.

Do I have to take part?

It is up to you entirely whether or not you wish to take part. If you choose not to take part you do not need to give a reason. If you do decide to take part you will be given this information sheet to keep and asked to sign a consent form, to show you have understood the information and agreed to take part. If you decide to take part you are still free to withdraw at any time and you will not need to give a reason why. If you decide not to take part or decide to withdraw from the study then this will not affect the treatment you receive from your mental health team in any way. The study is not part of your treatment. If you decide to withdraw any information you have given will be destroyed and not used in the research.

What will happen to me if I take part and what do I need to do?

If you decide to take part in the study a researcher, who is a clinical psychologist in training, will interview you. You will be asked a number of questions by the researcher about your experience of hearing voices and how you understand and cope with them. In addition, you will be asked to complete some questionnaires about your views and how you
feel.

The whole interview is likely to take about 2 hours in total. In most cases this will be the only interview and you will be given time to ask questions at any time. You may decline to answer any question asked without giving a reason. Again, the aim is only to understand your experiences. You will be given no treatment or medication as part of the study. It is not anticipated that the interview will make your voices better only that we will understand people's experiences of voices more clearly. Hopefully this will make us more able to help people cope with voices in the future.

A few people who are interviewed will be asked to participate in a second visit, if they are willing. This will be a second interview about the person's day-to-day experiences with the voices. This second interview would need to be recorded on audiotape. If you are approached to participate you will be asked to sign a separate consent form.

Are there any disadvantages or risks of taking part?

It is unlikely that any risks are involved in taking part. Many people find talking about their voices with someone who is willing to listen can be helpful. It is possible however that you may become upset or frightened whilst talking about voices. If this is the case remember you can withdraw from the study at any time. Alternatively, the session can be halted and returned to later or at another time. If you feel you need ongoing support to cope with the upset then a worker from your team will be made available to help you.

What are the possible benefits of taking part?

It is not expected that taking part in the study will make you or your voices better in any way. However, the information we get from this study may help us to treat future patients who hear voices, more effectively.

What if I have a complaint about the study?

It is not anticipated that any harm will come to you during the study. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been approached or treated during the course of the study, the normal National Health Service complaints mechanisms should be available to you.

What happens to the information I give you – is it confidential?

All information, which is collected, about you during the course of the research will be kept strictly confidential. Any information about you, which is stored at the University, will have your name, address and any other information, which might identify you removed, so that you cannot be recognized from it.

Unless you give your permission for information to be shared with your psychiatrist (doctor) or Keyworker no information about your voices will be passed to the team who look after you.
However, if you tell the researcher anything, which makes him, think that you may be at risk or someone else may be at risk, then information about this will be passed to the team even without your permission.

What will happen to the results of the research?

The research forms part of the training of the researcher who is training to be a Clinical Psychologist. When completed the results of the study will be bound into a book and stored at Coventry and Warwick Universities. It is possible that the research findings will be published in a journal for mental health professionals at a later date. Copies will be available via the University on request.
NOTE: All information, which could identify you, will be removed you will not be identified in any report or publication.

Who is organizing the research?

The research is organized by the Doctorate of Clinical Psychology Training Programme based at Coventry University.
Neither the researcher nor your doctor will be paid for including you in the study.

Who has reviewed the study?
The study has been reviewed by the Multi-regional Ethics Committee for Scotland to ensure your safety and rights.

Thank you for reading this leaflet. If you decide to take part in this study you will be given a copy of this leaflet and a signed consent form to keep.

Appendix C: Consent Form

Programme Director
Doctorate Course in Clinical Psychology
Dr Delia Cushway
BA (Hons) MSc PhD AFBPS CPsychol

School of Health and Social Sciences
Coventry University
Priory Street Coventry CV1 5FB
Telephone 024 7688 8328
Fax 024 7688 8328 or 8784

THE UNIVERSITY OF WARWICK

COVENTRY UNIVERSITY

Centre Number:

VERSION 1 (07/02/03) Our ref

Participant Identification Number:

Your ref

CONSENT FORM

Date

Investigating people's experiences of hearing voices: What they feel about it and what they do about it.

Name of Researchers: DAVID HACKER (Trainee Clinical Psychologist)
Dr JEREMY TUDWAY (Consultant Clinical Psychologist)

Title of Project: **Investigating people's experiences of hearing voices: What they feel about it and what they do about it.**

(Project also known as "An investigation into the use of safety behaviours by voice hearers and the maintenance of emotional distress").

Please initial box

1. I confirm that I have read and understand the information sheet dated ..... (version .....) for the above study and have had the opportunity to ask questions. ☐
2. David Hacker has checked that I understand what the study is about, what the possible disadvantages are and how I would stop the interview if I wanted to. ☐
3. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. ☐
4. I understand that confidentiality will be maintained to safeguard my identity ☐
5. I agree to take part in the above study. ☐

Name of Patient	Date	Signature
Name of Person taking consent (if different from researcher)	Date	Signature
Researcher	Date	Signature

1 for participant; 1 for researcher; 1 to be kept with hospital notes

Dean of Studies: [redacted] Coventry University Priory Street Coventry CV1 5FB Telephone 024 7688 8357
[redacted] BA BSc MSc PhD University of Warwick Coventry CV4 7AL Telephone 024 7652 3096

Appendix D: Measures

Cognitive Assessment of Voices: Interview Schedule
Appraisal of Threat
The Safety Behaviours Questionnaire
The Beliefs about voices questionnaire – revised (BAVQ-R)
The Entrapment Scale
The Power Scale
The Psychotic Symptom Rating Scale: Auditory Hallucination Rating Scale
The Hospital Anxiety and Depression Scale

COGNITIVE ASSESSEMENT OF VOICES:

INTERVIEW SCHEDULE

(Chadwick and Birchwood, 1994)

COGNTIVE ASSESSEMENT OF VOICES: INTERVIEW SCHEDULE

** (Short form - utilised for the purposes of the present study: Hacker et al, 2004)

The following semi-structured schedule is intended to guide the cognitive assessment interview (Chadwick and Birchwood, 1994). The schedule enquires about the voice, the individual's feelings and behaviour in relation to the voice, and his or her beliefs about the voice's identity, power, purpose or meaning and about the likely consequences of obedience and disobedience.

Do try to use it flexibly; the structure is for convenience based on the ABC model and will not be the order in which all individuals will want to talk.

It is important that you familiarise yourself with the schedule prior to the interview – certain sections contain detailed notes for the interviewer.

VOICE

How many voices do you hear?

CONTENT OF VOICE

- Does the voice talk to you or about you?
- Has the voice said your name?
- Can you tell me the kinds of things the voice says?

(Record 2-3 recent examples verbatim)

_____

_____

_____

Explore the following categories of voice content:

- **Commands**: Does the voice ever tell you to do something?

_____

- **Advice:** Does the voice ever give you advice or suggestions on what you should do?

_____

- **Commentary:** Does the voice ever comment on what you are doing or thinking?

_____

- **Criticism and Abuse:** Does the voice ever say unpleasant things about you or someone else?

_____

- **Hostility/Direct Threat:** Does the voice ever threaten to harm you or someone else?

_____

- ***Protective warning**: Does the voice ever warn you about things (not to include threats from voice)?

_____

- ***Praise/Encouragement:** Does the voice praise or encourage you?

IDENTITY OF THE VOICE

Do you have any idea whose voice you hear?

Conviction: How sure are you that the voice is [name above]?

Evidence: What makes you think the voice is [name above]?

0. Voice identifies itself
1. Inferred from voice ('sounds like her', 'it talks about the bible', 'only he could know that'.
2. Belief is based on guilt, visual hallucinations etc.
3. Other (please specify)

Have you any idea why it is that *you* hear this particular voice?
(Record idiosyncratic reason)?

ANTECEDENTS (TRIGGERS)

We have found that most people's voices are more active at certain times: perhaps last things at night, or when they are shopping or in pubs, or when they are feeling nervous? Are there certain times or occasions when your voice is more active?

Are there times when you don't hear the voice? Perhaps when you have company and are talking to someone?

MEANING

We say something like 'Most people I've spoken to have found that they really need to try and make sense of hearing voices, some thought the voice might be punishing them or getting at them in some way, others that it might be trying to help them'.

Have you any idea why it is that *you* hear this particular voice?

Do you think the voice is trying to harm you in some way (e.g. punishment for bad deed, undeserved persecution.....

How sure are you that this is true?

Is the voice trying to help you (e.g. protecting you, developing special power....)

How sure are you that this is true?

Has the voice said that this is its purpose? YES/NO

If no, explore evidence: say something like ' SO you have worked this out for yourself. What makes you think the voice is (give meaning)?'

APPRAISAL OF THREAT

The following questions ask about the sorts of bad things that people think might happen as a result of their voices.

TYPE OF THREAT

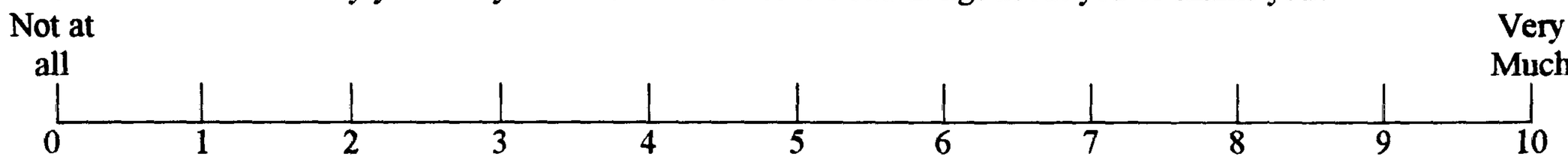
What concerns or worries you most about your voice?
(Record answer verbatim and then categorise as below if possible)

_____

_____

- **Shame and Exposure**:

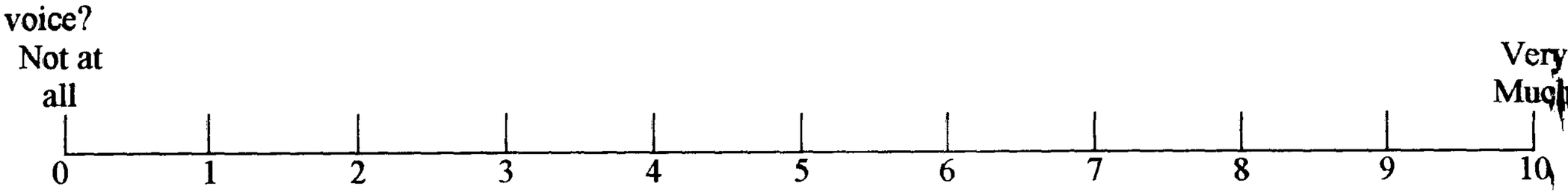
How much does it worry you that your voice will tell others bad things about you or shame you?



Record qualitative details of threat

- **Physical Threat to self or others:**

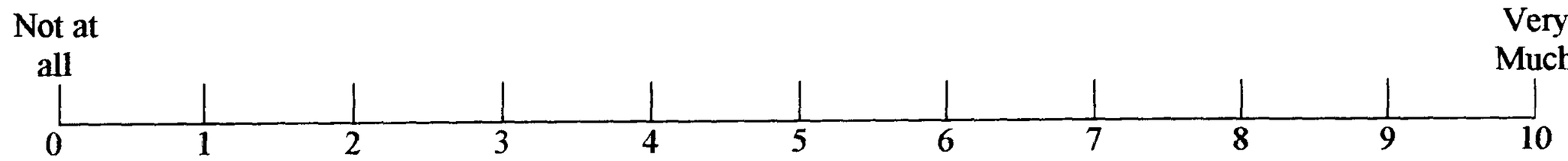
How much does it worry you that you or someone else will be physically hurt because of your voice?



Record qualitative details of threat

- **Psychological threat:**

How much does it worry you that your voice will drive you mad or crazy or cause you to lose control?

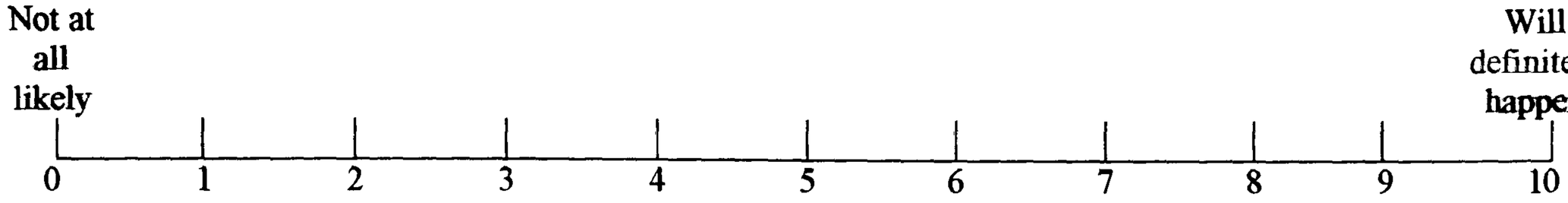


Record qualitative details of threat

DIMENSIONS OF DOMINANT THREAT

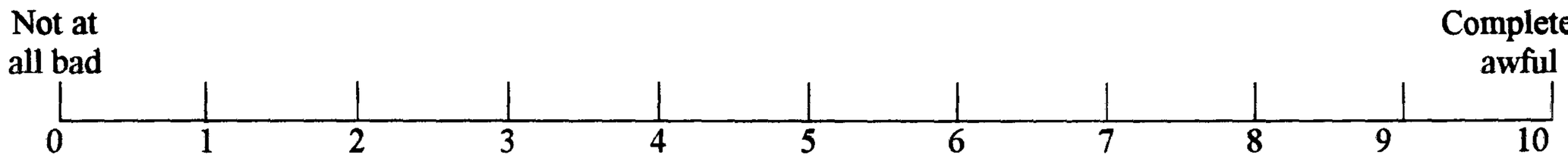
Probability of threat occurrence:

How likely do you think it is that [threat] might occur?



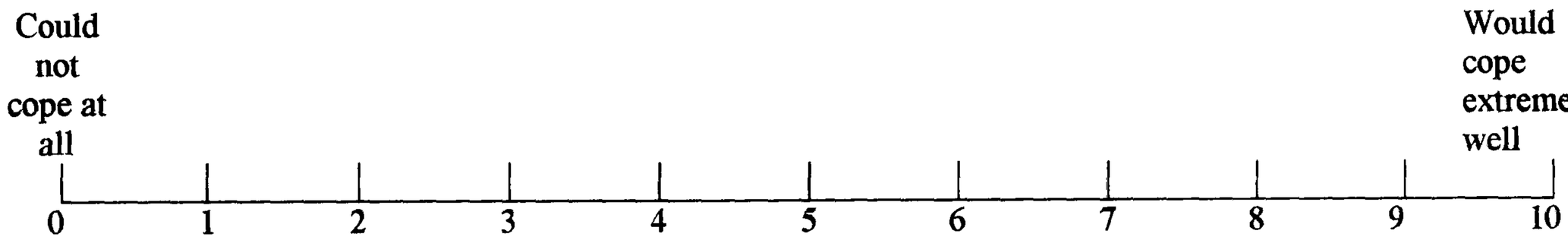
Awfulness of threat:

How bad would it be if [threat] did occur?



Capacity to cope:

If [threat] did occur, how well would you be able to cope with it?



Deservedness of Threat?

Do you think you deserve the threat to happen?

YES/NO

The Safety Behaviours Questionnaire (SBQ)

Freeman, Garety & Kuipers (2001)

THE SAFETY BEHAVIOURS QUESTIONNAIRE (SBQ)

Threat belief:

'I would now like to ask you, in some detail, about any actions or behaviours that you may do to try to minimise or stop the threat from occurring; often we find that individuals who feel threatened do things that they think will provide some protection. All my questions will relate to the past month.'

Initial probe: **'In the last month, have you done anything to try to minimise, reduce, or prevent the threat from occurring?'** YES / NO If Yes, please note actions and frequencies

.....

.....

.....

.....

.....

.....

For scoring purposes, behaviours reported above should be classified into one of the categories below (ie. Avoidance, In-Situation, Escape, Compliance, Help, Aggression, or Delusional)

Note: If at any stage of the interview it is unclear how a behaviour reduces threat, then the individual should be asked: 'How does that reduce or prevent the threat from occurring?'

'That was a very general question. I'd now like to ask some more specific questions.'

1. Avoidance: **'Sometimes, people who feel threatened avoid situations or activities in order to reduce the chances of the threat occurring. In the last month, have you avoided anything in order to reduce the threat?'** YES / NO If Yes, please note actions and frequencies

.....

.....

.....

.....

'Just to be sure we haven't missed anything, I'm going to read a list of situations out loud to you. Do you avoid any of the following':

		Frequency
Shops	Yes / No	.....
Public transport	Yes / No	.....
Pubs	Yes / No	.....
Restaurants	Yes / No	.....
Meeting people or social gatherings	Yes / No	.....
Open spaces	Yes / No	.....
Enclosed spaces	Yes / No	.....
Staying at home alone	Yes / No	.....

Being far from home	Yes / No	.....
Walking on the street	Yes / No	.....
Eating or drinking certain items	Yes / No	.....

2a. In-Situation Safety Behaviours: **'There may be times when a person can't avoid being in the very threatening situation. However, they may still try to do small, or subtle things, to try to minimize the threat. For example, if outside, they might try to be with someone, or keep near an exit, and, if inside, they might not answer the front door, or keep the curtains drawn or check the locks. They may also try to be very vigilant for threat. When you are in a situation in which you think that threat is about to occur, do you do anything to reduce the threat?'** YES / NO

If Yes, please note actions and frequencies

.....

.....

.....

.....

.....

2b This question is to be asked if threat is reported as actually happening: 'When harm is happening to you, are there any things that you do to try to lessen the impact?' YES / NO

If Yes, please note actions and frequencies

.....

.....

.....

.....

.....

3. Escape: **'Another thing that people do is to leave a situation if they think that threat is very imminent or about to occur, for example, they might rapidly leave a shopping centre if they see someone they think is about to harm them.In the last month, have you quickly left a situation to avoid the threat?'** YES / NO If Yes, please note actions and frequencies

.....

.....

.....

.....

If a response is given then ask about cues: 'What made you think that threat was about to occur then?' .....

.....

4. Compliance with persecutor's demands/wishes: **'To reduce the chances of threat occurring, people may sometimes comply with, or give in to, the demands or wishes of the person who is trying to harm them. Do you do things to satisfy the person who is trying to harm you, in order to reduce the threat?'** YES / NO If Yes, please note actions and frequencies

.....

.....

.....

.....

5. *Getting help from others:* **'Occasionally, a person may try to get the help of others in reducing the threat, for example, asking friends to help or contacting the police or solicitors. In the last month, have you tried to enlist the help of anyone in reducing the threat?'** YES / NO If Yes, please note actions and frequencies

.....

.....

.....

6. *Aggression*: **'Lastly, people sometimes have tried to confront, or go up to, the person they think is trying to harm them - have you done that in the last month?'** YES / NO If Yes, please note actions and frequencies

.....

.....

.....

.....

7. *Delusional actions* (no question to be asked): Interviewer to list here any behaviours that are regarded by the person as reducing the likelihood of the threat, but that do not fit into any of the above categories and seem not to reduce threat in any understandable way. .....

.....

.....

.....

.....

Perceived effectiveness of safety-behaviours, control of the situation, and rescue factors:

A. **'Overall, how successful do you believe are these actions in reducing the threat? Please chose a number between 0 (not at all successful) and 10 (extremely successful).'**

_____

B. **'Overall, how much control do you have over the situation? Please chose a number between 0 (no control) and 10 (total control).'** _____

C. **'Are there any factors that are beyond your control that may rescue you from the harm? - for example, something to do with the person trying to harm you or something to do with other people that may result in the threat not occurring'** YES / NO If Yes, please note details

.....

.....

.....

.....

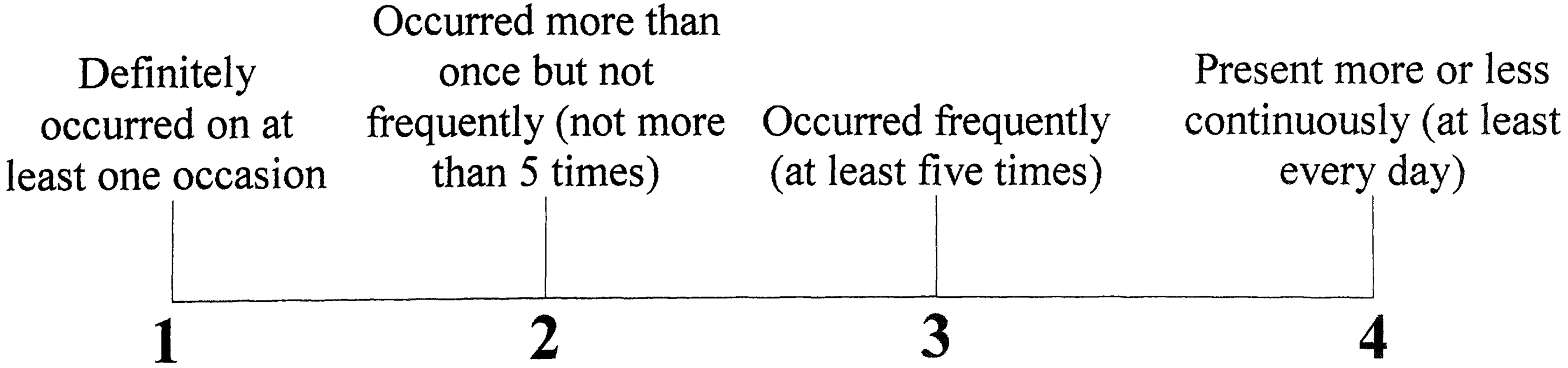
Note: It must be remembered to obtain frequency ratings of the safety-behaviours. A card listing the frequency categories can be placed in front of the person:

Frequency of action. Please choose a number for how often the action occurred in the last month. 1=definitely occurred on at least one occasion, 2=occurred more than once but not frequently (eg. not more than five times), 3=occurred frequently (eg. at least five times), 4=present more or less continuously (at least every day).

SAFETY BEHAVIOUR QUESTIONNAIRE – RATING SCALE

FREQUENCY OF ACTION.

PLEASE CHOOSE A NUMBER FOR HOW OFTEN THE ACTION/BEHAVIOUR OCCURRED ***IN THE LAST MONTH.***



BAVQ - R

There are many people who hear voices. It would help us to find out how you are feeling about your voices by completing this questionnaire. Please read each statement and tick the box which best describes the way you have been feeling in the *past week*.

If you hear more than one voice, please complete the form for the voice which is dominant.

Thank you for your help.

Name: .....
Age: .....

		Disagree	Unsure	Slightly Agree	Strongly Agree
1	My voice is punishing me for something I have done				
2	My voice wants to help me				
3	My voice is very powerful				
4	My voice is persecuting me for no good reason				
5	My voice wants to protect me				
6	My voice seems to know everything about me				
7	My voice is evil				
8	My voice is helping to keep me sane				
9	My voice makes me do things I really don't want to do				
10	My voice wants to harm me				
11	My voice is helping me to develop my special powers or abilities				
12	I cannot control my voices				
13	My voice wants me to do bad things				
14	My voice is helping me to achieve my goal in life				
15	My voice will harm or kill me if I disobey or resist it				

		Disagree	Unsure	Slightly Agree	Strongly Agree
16	My voice is trying to corrupt or destroy me				
17	I am grateful for my voice				
18	My voice rules my life				
19	My voice reassures me				
20	My voice frightens me				
21	My voice makes me happy				
22	My voice makes me feel down				
23	My voice makes me feel angry				
24	My voice makes me feel calm				
25	My voice makes me feel anxious				
26	My voice makes me feel confident				

When I hear my voice, <u>usually</u> ...

		Disagree	Unsure	Slightly Agree	Strongly Agree
27	I tell it to leave me alone				
28	I try and take my mind off it				
29	I try and stop it				
30	I do things to prevent it talking				
31	I am reluctant to obey it				
32	I listen to it because I want to				
33	I willingly follow what my voice tells me to do				
34	I have done things to start to get in contact with my voice				
35	I seek the advice of my voice				

Scoring guidelines

All items have a four point response range, Disagree (score 0), Unsure (score 1), Agree slightly (score 2) & Agree strongly (score 3).

The questionnaire has three scales measuring meaning given to the voice

Malevolence (items 1, 4, 7, 10, 13, 16)
Benevolence (items 2, 5, 8, 11, 14, 17)
Omnipotence (items 3, 6, 9, 12, 15, 18)

These three scales therefore have a range of possible scores 0-18.

Following the original BAVQ, the questionnaire also measures Resistance and Engagement, two ways of relating to the voices. Resistance and Engagement both contain emotional and behavioural items.

Resistance

- Emotion (items 20, 22, 23, 25): Range 0-12
- Behaviour (items 27, 28, 29, 30, 31): Range 0-15

Engagement

- Emotion (items 19, 21, 24, 26): Range 0-12
- Behaviour (items 32, 33, 34, 35, 36): Range 0-12

Emotion and behaviour scores can either be totalled to give one overall score for Resistance (Range 0-27) and Engagement (Range 0-24), or looked at separately, or both.

The Entrapment Subscale of the E-Scale (Gilbert et.al. 2001)

People who experience voices can feel different things about them. For each of the statements below indicate the extent to which you think it represents your feelings about them.

	Not at all like me	**A little bit like me**	**Moderately like me**	**Quite a bit like me**	**Extremely like me**
I feel trapped by my voice					
I can see no way of getting away from my voice					
I feel cornered by my voice					
I feel I can't get away from my voice no matter how hard I try					
I feel closed in by my voices					

POWER SCALE (VOICES) (Birchwood et.al. 2000)

Please circle the number which best describes how you feel in relation to your voice.

1	2	3	4	5
I am much more powerful than my voice	I am somewhat more powerful than my voice	We have about the same amount of power as each other	My voice is somewhat more powerful than me	My voice is much more powerful than me
1	**2**	**3**	**4**	**5**
I am much stronger than my voice	I am somewhat stronger than my voice	We are as strong as each other	My voice is somewhat stronger than me	My voice is much stronger than me
1	**2**	**3**	**4**	**5**
I am much more confident than my voice	I am somewhat more confident than my voice	We are as confident as each other	My voice is somewhat more confident than me	My voice is much more confident than me
1	**2**	**3**	**4**	**5**
I respect my voice much more than they respect me	I respect my voice somewhat more than they respect me	We respect each other about the same	My voice respects me somewhat more than I respect them	My voice respects me much more than I respect them
1	**2**	**3**	**4**	**5**
I am much more able to harm my voice than they are to harm me	I am somewhat more able to harm my voice than they are to harm me	We are equally well able to harm each other	My voice is somewhat more able to harm me than I am able to harm them	My voice is much more able to harm me than I am able to harm them
1	**2**	**3**	**4**	**5**
I am much more superior to my voice	I am somewhat superior to my voice	We are equal to each other	My voice is somewhat superior to me	My voice is much more superior than me
1	**2**	**3**	**4**	**5**
I am much more knowledgeable than my voice	I am somewhat more knowledgeable than my voice	We have about the same amount of knowledge as each other	My voice is somewhat more knowledgeable than me	My voice is much more knowledgeable than me

AUDITORY HALLUCINATION RATING SCALE

Gillian Haddock
University of Manchester, 1994

GENERAL INSTRUCTIONS

The following structured interview is designed to elicit specific details regarding different dimensions of auditory hallucinations. When asking questions, the interview is designed to rate the patient's experiences over the last week for the majority of items. There are two exceptions to this e.g. when asking about beliefs regarding cause of voices, rate the patients response based on what they believe at the time of interview. Also loudness of voices should be rated according to the loudness of voices at the time of interview or the last time the patient experienced them.

Name: ----------

Age: ----------

Sex: M / F

Diagnosis: (If relevant) ----------

Length of time experiencing voices (years) : ----------

Hallucination in other modalities: visual/olfactory/gustatory/tactile

AUDITORY HALLUCINATIONS : SCORING CRITERIA

1. FREQUENCY

How often do you experience voices ? e.g. every day, all day long etc.

0 Voices not present or present less than once a week (specify frequency if present)

1 Voices occur for at least once a week

2 Voices occur at least once a day

3 Voices occur at least once an hour

4 Voices occur continuously or almost continually i.e. stop only for a few seconds or minutes.

2. DURATION

When you hear your voices, how long do they last e.g. few seconds, minutes, hours, all day long ?

0 Voices not present

1 Voices last for a few seconds, fleeting voices

2 Voices last for several minutes

3 Voices last for at least one hour

4 Voices last for hours at a time

3. LOCATION

When you hear your voices where do they sound like they're coming from ?
- inside your head and/or outside your head ?
- If voices sound like they are outside your head, whereabouts do they sound like they're coming from ?

0 No voices present

1 Voices originate inside head only

2 Voices outside the head, but close to ears or head
Voices inside the head may also be present

3 Voices originate inside or close to ears and outside head away from ears

4 Voices originate from outside space, away from head only

4. LOUDNESS

How loud are your voices ?
Are they louder than your voice, about the same loudness, quieter or just a whisper?

0 Voices not present

1 Quieter than own voice, whispers

2 About same loudness as own voice

3 Louder than own voice

4 Extremely loud, shouting

5. BELIEFS RE-ORIGIN OF VOICES

What do you think has caused your voices ?
- Are the voices caused by factors related to yourself or solely due to other people or factors?

If patient expresses an external origin:
- How much do you believe that your voices are caused by ---------- (add patient's attribution) on a scale from 0-100 with 100 being that you are totally convinced, have no doubts and 0 being that it is completely untrue?

0 Voices not present

1 Believes voices to be solely internally generated and related to self

2 Holds a less than 50% conviction that voices originate from external causes

3 Holds 50% or more conviction (but less than 100%) that voices originate from external cause

4 Believes voices are solely due to external causes (100% conviction)

6. AMOUNT OF NEGATIVE CONTENT OF VOICES

Do your voices say unpleasant or negative things ?
- Can you give me some examples of what the voices say ? (record these e.g.'s)
- How much of the time do the voices say these type of unpleasant or negative items?

0 No unpleasant content

1 Occasional unpleasant content

2 Minority of voice content is unpleasant or negative (less than 50%)

3 Majority of voice content is unpleasant or negative (more than 50%)

4 All of voice content is unpleasant or negative

7. DEGREE OF NEGATIVE CONTENT

[Rate using criteria on scale, asking patient for more detail if necessary]

0 Not unpleasant or negative

1 Some degree of negative content, but not personal comments relating to self or family e.g. swear words or comments not directed to self, e.g. "the milkmans ugly"

2 Personal verbal abuse, comments on behaviour e.g. "shouldn't do that, or say that"

3 Personal verbal abuse relating to self-concept e.g. "you're lazy, ugly, mad, perverted"

4 Personal threats to self e.g. threats to harm to self or family, extreme instructions or commands to harm self or others and personal verbal abuse as in (3)

8. AMOUNT OF DISTRESS

Are your voices distressing ?
- How much of the time ?

0 Voices not distressing at all

1 Voices occasionally distressing, majority not distressing

2 Equal amounts of distressing and non-distressing voices

3 Majority of voices distressing, minority not distressing

4 Voices always distressing

9. INTENSITY OF DISTRESS

When voices are distressing, how distressing are they ?
- Do they cause you minimal, moderate, severe distress ?
- Are they the most distressing they have ever been ?

0 Voices not distressing at all

1 Voices slightly distressing

2 Voices are distressing to a moderate degree

3 Voices are very distressing, although subject could feel worse

4 Voices are extremely distressing, feel the worst he/she could possibly feel

10. DISRUPTION TO LIFE CAUSED BY VOICES

How much disruption do the voices cause to your life ?
- Do the voices stop you from working or other daytime activity ?
- Do they interfere with your relationships with friends and/or family ?
- Do they prevent you from looking after yourself, e.g. bathing, changing clothes etc?

0 No disruption to life, able to maintain independent living with no problems in daily living skills. Able to maintain social and family relationships (if present)

1 Voices cause minimal amount of disruption to life e.g. interferes with concentration although able to maintain daytime activity and social and family relationships and be able to maintain independent living without support.

2 Voices cause moderate amount of disruption to life causing some disturbance to daytime activity and/or family or social activities. The patient is not in hospital although may live in supported accommodation or receive additional help with daily living skills.

3 Voices cause severe disruption to life so that hospitalisation is usually necessary. The patient is able to maintain some daily activities, self-care and relationships whilst in hospital. The patient may also be in supported accommodation but experiencing severe disruption of life in terms of activities, daily living skills and/or relationships.

4 Voices cause complete disruption of daily life requiring hospitalisation. The patient is unable to maintain any daily activities and social relationships. Self-care is also severely disrupted.

11. CONTROLLABILITY OF VOICES

- Do you think you have any control over when your voices happen ?
- Can you dismiss or bring on your voices ?

0 Subject believes they can have control over their voices and can always bring on or dismiss them at will

1 Subject believes they can have some control over the voices on the majority of occasions

2 Subject believes they can have some control over their voices approximately half of the time

3 Subject believes they can have some control over their voices but only occasionally. The majority of time the subject experiences voices which are uncontrollable

4 Subject has no control over when the voices occur and cannot dismiss or bring them on at all

Hospital Anxiety and Depression Scale (HADS)

NFER-NELSON
INFORMING YOUR DECISIONS

FOLD HERE

FOLD HERE

Name: _____ **Date:** _____

Clinicians are aware that emotions play an important part in most illnesses. If your clinician knows about these feelings he or she will be able to help you more.

This questionnaire is designed to help your clinician to know how you feel. Read each item below and **underline the reply** which comes closest to how you have been feeling in the past week. Ignore the numbers printed at the edge of the questionnaire.

Don't take too long over your replies, your immediate reaction to each item will probably be more accurate than a long, thought-out response.

A D

I feel tense or 'wound up'
- Most of the time (3)
- A lot of the time (2)
- From time to time, occasionally (1)
- Not at all (0)

I still enjoy the things I used to enjoy
- Definitely as much (0)
- Not quite so much (1)
- Only a little (2)
- Hardly at all (3)

I get a sort of frightened feeling as if something awful is about to happen
- Very definitely and quite badly (3)
- Yes, but not too badly (2)
- A little, but it doesn't worry me (1)
- Not at all (0)

I can laugh and see the funny side of things
- As much as I always could (0)
- Not quite so much now (1)
- Definitely not so much now (2)
- Not at all (3)

Worrying thoughts go through my mind
- A great deal of the time (3)
- A lot of the time (2)
- Not too often (1)
- Very little (0)

I feel cheerful
- Never (3)
- Not often (2)
- Sometimes (1)
- Most of the time (0)

I can sit at ease and feel relaxed
- Definitely (0)
- Usually (1)
- Not often (2)
- Not at all (3)

A

I feel as if I am slowed down
- Nearly all the time (3)
- Very often (2)
- Sometimes (1)
- Not at all (0)

I get a sort of frightened feeling like 'butterflies' in the stomach
- Not at all (0)
- Occasionally (1)
- Quite often (2)
- Very often (3)

I have lost interest in my appearance
- Definitely (3)
- I don't take as much care as I should (2)
- I may not take quite as much care (1)
- I take just as much care as ever (0)

I feel restless as if I have to be on the move
- Very much indeed (3)
- Quite a lot (2)
- Not very much (1)
- Not at all (0)

I look forward with enjoyment to things
- As much as I ever did (0)
- Rather less than I used to (1)
- Definitely less than I used to (2)
- Hardly at all (3)

I get sudden feelings of panic
- Very often indeed (3)
- Quite often (2)
- Not very often (1)
- Not at all (0)

I can enjoy a good book or radio or television programme
- Often (0)
- Sometimes (1)
- Not often (2)
- Very seldom (3)

Now check that you have answered all the questions

A D

TOTAL

1.0.94

Appendix E: Inter-rater protocol

Categories And Definitions Of Safety Behaviour Use For SBQ Inter-Rater Reliability Study

Avoidance:

Behaviours, which involve avoiding particular situations, people or activities because of a perceived threat from the voices. This may include avoidance of social gatherings, consuming particular foods or drinks', avoiding use of public transport etc.

This category should NOT include active attempts to reduce voice activity (e.g. listening to music etc,) other than those, which involve avoidance of situations or activities, which might precipitate or worsen voice activity.

In-Situation Safety Behaviours:

As opposed to avoidance these are behaviours in which the person engages whilst in a situation perceived to be threatening. The person may do small or subtle things to minimise the threat or prevent harm from occurring. If harm is believed to be happening at the time this category may also include behaviours designed to lessen the impact of that harm. The person may, for example, if outside, try to be with someone, or keep near an exit, and, if inside, they might not answer the front door, or keep the curtains drawn or check the locks. They may also try to be very vigilant for threat.

(N.B) Behaviours, which involve leaving a feared situation, should not be included here (see "Escape")

Escape:

Behaviours, which involve initially being in a situation perceived to be threatening, and then leaving because threat is believed to be imminent or about to occur. Leaving the situation may involve leaving the situation quickly (e.g. the shopping centre) or earlier than the person wishes.

Compliance

This category includes actions taken to comply with, satisfy, or give in to the demands or wishes of the person perceived to be the source of threat. This may include full compliance in line with the persecutor's wishes. It may also include actions which involve only partial compliance with the persecutor's wishes or actions related or unrelated to the persecutors wishes which are designed to appease or satisfy the persecutors to prevent harm from occurring.

Getting help from others:

This category includes attempts to enlist the help of others in reducing the perceived threat, for example, asking friends to help or contacting the police or solicitors.

Aggression:

This category includes both verbal and physical aggression to towards the persecutors (either the voice or those believed to be acting for the voice). Also included are attempts to confront, or go up to the persecutors, to threaten or frighten them or to cause harm to come to them, in order to reduce a perceived threat to self or others.

Rescue Factors:

This category includes factors, believed to be outside of the person's direct control, which may prevent the harm form occurring or have prevented the harm from occurring to date. This may be something to do with the persecutor themselves or other people (entities) which may prevent the harm from occurring.

Unable to categorise (formerly delusional actions)

Behaviours that are regarded by the person as reducing the likelihood of the threat, but that do not fit into any of the above categories or do not seem to reduce threat in any understandable way.

Appendix F: Instructions to authors

Clinical Psychology Review

Description

Clinical Psychology Review publishes substantive reviews of topics germane to clinical psychology. Its purpose is to help clinical psychologists keep up-to-date on relevant issues outside of their immediate areas of expertise by publishing scholarly but readable reviews. Papers cover diverse issues including: psychopathology, psychotherapy, behavior therapy, behavioral medicine, community mental health, assessment, and child development.

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Audience

Psychologists and Clinicians in Psychopathy

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